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Problems of Economics

ВОПРОСЫ ЭКОНОМИКИ

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IN THIS ISSUE

Concerning Development of Economic Ties between City and Village

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Current Problems of Planning Specialization in Machine Building

The Moscow Coal Basin: Concerning the Effectiveness of its Development

The All-Union Census of Population in 1959

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. Mochalovsky:

oncerning Development of Economic Ties Between City and Village

he decisions of the June plenary session of the Party
tral Committee and the resolution of the USSR Council
inisters "On Abolishing Obligatory Deliveries and Pay-
nts in Kind for MTS Work and on the New System, Prices
Terms for Procurements of Agricultural Products" are
reat practical and theoretical significance. It has be-
ne possible to carry out these decisions thanks to the
that agriculture and the country's national economy as
hole have reached a high stage of development. This was
objective basis for the reorganization of the MTS and the
e of machinery to the collective farms, the abolition of
gatory deliveries and payment in kind for MTS work and
establishment of fixed, economically founded prices for
icultural products — prices differentiated according to
natural and economic regions of the country.

he problems of procurements of agricultural products
the level of procurement prices paid for them have al-
s been in the center of the Party's and the Soviet gov-
nment's attention. At all stages of the building of social-
the forms of procurements and the level of procurement
ces have been established keeping in mind the need to as-
e the victory of socialism and the successful develop-
nt of the building of communism in our country on the
is of a firm union of the working class and the peasantry
on the basis of a moral and political unity of all the So-
people's many nationalities.

uring the period of socialist reconstruction and the crea-
of a mighty socialist industry and the socialist recon-
uction of agriculture on this bases, there arose the need
changes in the forms of procurements of agricultural
ducts and the stabilization of prices for agricultural
ducts put at the disposal of the state. In 1928-29 there
introduced a system of procurements of grain and some
er products by contract. In 1932-33 obligatory deliveries
roducts by collective farms and peasant farms to the
e and a system of payment in kind for MTS work were
blished.

he introduction of obligatory deliveries and payment in
for MTS work was conditioned not only by the country's
at need for provisions and agricultural raw materials in
nection with the rapid growth of the cities and industrial
ters, but also by the interests of the successful comple-
of the socialist reorganization of agriculture. As a re-
of this, specific forms of economic ties between indus-
and agriculture and between the state and the collective
ns were set up. The collective farms were to deliver
of their commercial products to the state in the form
bligatory deliveries at procurement prices that were
er than the prices set at markets, and some of the prod-
were to be delivered as payment in kind for MTS work.
state in turn took upon itself all expenditures involved
upplying agricultural production with modern equipment
in addition, invested enormous funds in capital con-
ction, the erection of irrigation and reclamation sys-
s, repair plants and shops, seed culture, breeding and
r measures and in addition granted the collective
farms especially favorable terms in the special sale of manufactured goods, tax payments, credits, etc. This form of the ties between the state and the collective farms was at the time a progressive one. It filled the requirements of the law of planned proportional development of the national economy and had basis in value. This was a specific form of the equivalent exchange of the products of labor between industry and agriculture. During the last four years alone the state has poured 75,400,000,000 rubles into agriculture for capital construction and the purchase of machinery. All this has formed the material basis for successfully carrying out the socialist reconstruction of agriculture, the victory of the collective farm system and for the rapid rise in agriculture during recent years. In addition, great economic and political changes have taken place in the country. A mighty socialist industry has been built. The collective farm system has been victorious and has become strong. As a result, the proportions in the development of the individual branches of the national economy have changed. The relations between the prices for various products has changed also. Prices for manufactured goods were raised, while the procurement prices for agricultural products remained basically unchanged until 1953. Clearly, under these conditions the cost balances in the ties between industry and agriculture were partially violated and, as a result, the material incentives for the collective farms and collective farmers to increase agricultural production were reduced. Consequently, the conditions for the procurements of agricultural products were in contradiction to the requirements of objective economic laws. All this became an impediment to the further development and strengthening of the economic ties between city and country.

***

The September, 1953 plenary session of the Party Central Committee revealed shortcomings and distortions in the system of the procurements of agricultural products and the prices paid for them and worked out a broad program for a further rise in agriculture. Beginning in 1953 a number of measures were taken for a steep rise in agricultural production. First of all the necessary cost balances in the economic ties between industry and agriculture were reestablished. This was done in two ways. First, through a sharp increase in state capital investments in agriculture (during the last four years the state has expended more than in the preceding 18 years on capital construction and on tractors, combines and other machines for agriculture). Second, through a radical improvement in the economic conditions for the procurements of agricultural products in the interest of providing material encouragement for the collective farms to increase agricultural production. The norms for obligatory deliveries to the state of grain, meat, milk, potatoes and other products were reduced, procurement prices for agricultural products were raised and high purchase prices were established. As a result of the increased prices for agricultural products, collective farms and farmers received an additional annual money income of more than 50,000,000,000 rubles. Major measures to improve the management of agriculture and to develop the economic initiative of the collective farms were worked out and put into practice. They were given concrete expression in the introduction of the new system of agricultural planning and in granting to the collective farms the right to make changes and corrections, when necessary, in the model collective farm statutes.

All these measures gave positive results. During the last four years the average annual procurements of the basic agricultural products increased in the following proportions as compared with the proceeding four years: grain, 22%; wheat, 44%; oil-producing seed crops, 34%; potatoes, 28%; raw cotton, 12%; sugar beets, 36%; flax, almost two times; meat, 51%; milk, 62%; eggs, 42%; and wool, 41%. The Soviet Union's volume of production of a number of agricultural products approaches the USA and in some products it has already caught up to and even surpassed the USA. For example, in 1957 milk production in the USSR was about 90% of the milk production of the USA. The production of animal fats was somewhat higher than that in the USA. The Soviet Union's wheat production is already two and one half times that of the USA. Its sugar beet production is about three times greater and its wool production is 2.5 times higher. The widespread movement undertaken at the initiative of advanced state and collective farms to overtake the USA in the near future in the per capita production of meat, milk, and butter is a guarantee that this task will be successfully accomplished.

Great new changes occurred in the economic ties between industry and agriculture and between the state and collective farms after the reorganization of the MTS and the sale of their machinery to the collective farms. As a result of this there arose an objective need to change the forms of the procurements of agricultural products from collective farms.

Under the forms for the procurements of agricultural products that have been in effect up to now, the collective farms received compensation for the products they delivered to the state through various channels. Procurement prices were paid for products delivered as part of obligatory deliveries. Higher prices than the procurement prices were paid for products sold through state purchases. High award prices were paid in addition to the procurement prices for industrial crops. The state arranged the special sale of goods to the collective farms at favorable prices as part of the procurement of many products. For products delivered as payment in kind, the collective farms received compensation in the form of machine work performed by the MTS on the collectivized sectors of the collective farms. After the September, 1953, plenary session of the Party Central Committee the general state expenditures for the procurements of agricultural products corresponded in the main to the necessary cost balances in the exchange of the products of labor between city and country. A confirmation of this is the fact that in recent years there has been a
steep rise in the development of production in agricultu
At the same time there were major shortcomings in the
distribution of the national income through state expend
tures for the procurement of agricultural products with
agriculture in individual groups of collective farms and
even in entire regions of the country. They stemmed fi
of all from the fact that the relationships between price
levels for individual agricultural products and agricult
raw materials did not have a firm enough economic bas
The prices for such products as raw cotton, tea, flax, h
sunflower seeds and some others were high and they as
sured high incomes to the many collective farms speci
ing in the production of these products. However, the p
for animal husbandry products, especially meat, and in
some regions for grain, too, were lower and this increa
the material incentive of the collective farms to increa
the production of these products. This relationship bet
price levels for important agricultural products meant
in a number of cases there was an incorrect distributic
the national income through the state expenditures for
procurement of agricultural products by regions that fa
ed some farms and regions specializing in the producti
of individual products and sometimes products of secor
degree importance. Now important corrections have be
made in the relationship of price levels in connection w
the increased in prices for meat, grain and some other
products.

Serious shortcomings in the distribution of the nation
income through prices also occurred where individual
groups of collective farms were concerned. Economica
strong collective farms producing under the best natur
and economic conditions could sell a large amount of th
products as state procurements at high prices, deliver
above-plan production of industrial crops, receive sup
mentary award prices and receive unjustifiably high in
comes. The state paid such collective farms a great de
more for a centner of the same product than it paid to
nomically weak collective farms. This can be seen in t
following figures on the average collective farm receip
for grain sold and delivered during 1957 from collecti
farms in four districts of Novosibirsk Province.

It is clear from these figures that the economically
collective farms that were not able to set aside a signi
amount of grain for sale to the state at high procureme
prices had average receipts for grain that were consid
ably lower than those received by stronger collective f
In individual collective farms of this grouping the diffe
in receipts for one centner of grain is still greater. Fo
ample, the Victory Collective Farm in Andreyevsk Dis
Novosibirsk Province delivered grain only as part of o
tory deliveries in 1957 and received an average of 21 r
per centner. The Kalinin Collective Farm in the same
trict, which sold and delivered to the state a little mor
grain than the Victory Collective Farm did, received a
average of 82 rubles per centner.

There were also great differences in the payments p

Groups of collective farms according to yield per hectare	No. of collectives farms	Proportion of products sold as state procurements in general procurements (in percentages)	Average receipts per centner of grain delivered to the state (in rubles)	Money income from gr based on one hectare under grain crops (in rubles)
From 5 to 8 centners	15	14	42	41
From 8 to 12 centners	33	75	56	180
From 12 to 15 centners	16	89	57	280
More than 15 centners	8	87	59	428

Groups of collective farms according to the production of meat per 100 hectares	No. of collective farms	Average delivery prices (in rubles per centner)			
		cattle	pigs	sheep and goats	meat average (live weight)
Less than 10 centners	29	238.7	521.8	195.4	280.9
From 10 to 15 centners	34	309.5	618.5	212.1	357.4
From 15 to 20 centners	10	335.0	590.5	401.9	425.1
More than 20 centners	9	369.4	757.7	278.8	487.4
Average of all groups	—	294.9	603.3	230.6	353.0

tner of livestock products. The figures above on the rage receipts of collective farms in 1957 for livestock ducts sold and delivered to the state show this.

here were still greater differences in the payments for centner of the same industrial crop because of the pay- it of supplementary award payments for overfulfillment roduction plans and plans for the delivery of commer- products to the state. For example, the receipts of ghboring collective farms for one centner of a product vered to the state varied from 500 rubles to 3000 rubles. n these circumstances the state paid less for products cured from economically weak collective farms in spite he fact that labor productivity is lower in these farms n in advanced farms. In addition, the economically strong ective farms received unjustifiably high incomes for the ducts taken by the state and, as a result of this, they did conduct the necessary struggle to reduce flaws in pro- tion and developed that field of their farming producing product for which the highest prices were offered. Under price system then in effect, the state was not in a posi- to distribute supplementary income according to plan in form of differentiated rents I. The collective farms with best natural and economic conditions, as a rule, realized supplementary income themselves. Besides this, under former price system they had additional economic advan- es from the redistribution of the national income and re- ved high payments per centner of a product delivered or d to the state. This injustice is being eliminated with the oduction of fixed purchase prices differentiated accord- to the zones of the country.

nder the new conditions for the procurements of agricul- al products, the scale of the collective farms' money in- nes will not depend on the proportion of a product taken he state through a particular procurement channel. In nection with this, the level of money incomes from prod- s taken by the state from economically weak collective ns will be sharply increased. However, the total sum of ey income from products taken by the state will be ater per hectare sown in the advanced collective farms ce they will have a greater amount of commercial prod- s. For example, take the grain delivered and sold to the e in 1957. Under the new procurement terms, the money in- nes received by the groups of collective farms mentioned he table on page four will undergo the following changes:

Approximately similar changes will also occur in the money receipts of the collective farms for other products, a great part of which were formerly delivered by the collective farms to the state as obligatory deliveries and as payment in kind for MTS work.

The establishment of fixed sale prices for tractors, combines and other agricultural machinery and also for spare parts and other materials for the collective farms and state enterprises are of great importance in strengthening and developing the economic ties between industry and agriculture. At the present time the collective farms have been put on equal terms with the state farms in this respect. This is of great economic and political importance.

***

The decisions of the June plenary session of the Party Central Committee and the resolution of the USSR Council of Ministers "On Abolishing Obligatory Deliveries and Payments in Kind for MTS Work and on the New System of Prices and Terms for the Procurements of Agricultural Products" are of great theoretical importance for the study of problems of price formation and means for the further development of the economic ties between industry and agriculture and between the state and the collective farms. They are also of great importance in establishing the basis for procurement prices for agricultural products in such a way that these prices aid in the further development of agriculture and the country's economy as a whole.

As it says in the decisions of the June plenary session of the Party Central Committee, the need to provide compensation for the collective farms' expenditures based on the average zonal production conditions, the growth of labor productivity, the reduction in the cost of products and the creation of the necessary accumulation for the expansion of socialist reproduction must be taken into account in fixing the level of the new procurement prices. This means that a price must be based on value and must compensate for the average zonal cost of production, the collective farms' production costs and must also provide for the necessary accumulations for expanded socialist reproduction both for the state and the collective farms. In this connection the problem of the collective farms' profit norm takes on great importance. If the profit norm for the collective farms is unreasonably high, there will be no incentive to increase the production of commercial products and to

oups of collective farms cording to grain crop eld (per hectare)	No. of collective farms	Money income from grain from one hectare of grain crops (in rubles)			
		Under old procurement terms	Under new procurement terms		Increase in money income under new procurement terms
			total	Including grain delivered as payment in kind	
om 5 to 8 centners	15	41	181	112	441
om 8 to 12 centners	33	180	389	151	216
om 12 to 15 centners	16	280	370	204	204
ore than 20 centners	8	428	774	234	182

reduce their cost, and this will lead to a reduction in the rate of increase of collective farm production and to a reduction in state accumulation and if the profit norm is unreasonably low the material incentive in the development of production will be weakened. Consequently, there must be a provision in the prices for a profit norm that would stimulate in the most effective way an increase in production of commercial products and reduction in their cost so that the collective farms can increase the amount of net income from this. Therefore, in setting the level of the procurement price for an agricultural product, it is first of all necessary to establish the collective farms' expenditures and the norm of net income they realize. This will make it possible to distribute the national income between the branches and to distribute the individual consumption fund according to the quality and quantity of the labor invested and to do this in the most advisable way in the interests of the development of the entire national economy.

A very complex factor in the formation of prices is the establishment of economically based zonal prices. Some comrades proposed extending to the collective farms a zonal division according to the state farm delivery prices now in effect. This would be a mistake. The delivery price for the state farms has a cost-accounting nature. But in instances when the delivery price does not conceal flaws in the production of the state farms, the production and financial plans provide for the covering of the losses of such farms through a redistribution of profits. Further, the losses in individual state farms are often actually covered by the state budget. This practice is also current in industry. Consequently, when there are losses in some state enterprises and above-plan profits in others, there is a redistribution of funds within the branch, and the losses are covered by the state budget. This system is not applicable to the collective farms because each of them runs its affairs on the basis of its own resources. Therefore, significant divergences from the average zonal natural and economic production conditions will, under a system of fixed purchase prices based on zones, have a noticeable effect on the collective farm's collective economy and on the level of payment for the collective farmers' labor. This is one of the reasons for the formation of a wide differentiation in the collective sector of the collective farms' economy and in the payments for collective farmers' labor in one and the same zone and even in the same region. However, divergences according to production conditions of collective farms in the zones adopted for the state farms are often quite significant. For example, the following figures on the average grain crop yield level for a 20-year period in the zones of Novosibirsk Province testify to this:

Zones	Percentage of the province average
North Barabinsk	104.6
South Barabinsk	93.9
Kulunda	86.2
Prigorodny	115.4
Vostochny	109.2

It is clear from the figures in the table that the average maximum divergence from the average yield of many years is about 15% for the province. Analogous divergences also occur in the level of production costs. If fixed purchase prices were established for all Novosibirsk Province zones under the present branch and production specialization structure and the existing tax system based on income were maintained, the collective farms in the South Barabinsk and Kulunda zones would be placed under less advantageous conditions and this would doubtless have an effect on the p
duction level and on the development of the economy of
collective farms' collective sector. In their turn, the c
lective farms in Prigorodny and East and even North B
binsk zones would be placed in more favorable economi
conditions as compared with the collective farms in ot
zones in this province. Therefore, the state purchase
for agricultural products in Novosibirsk Province mus
established not for the province as a whole but rather f
individual zones according to which the zonal differenti
tions in price levels should, in our opinion, remain wit
the limits of 15%.

The directive of the June plenary session of the Part
Central Committee on the fact that when new procurem
prices for agricultural products are established it is n
sary to take as the basis the expenditures of the collec
farms producing under conditions that are average for
given zone is of great theoretical importance. It shoul
noted that among the agricultural economists there was
point of view on this matter. Some of the economists w
in favor of taking the worst production conditions as th
basis when establishing prices. It is, however, known t
the level of agricultural production depends not only on
natural conditions but also, and to a greater extent, on
standards of farming, on the most expedient and highly
ductive use of land, labor and material resources. Pri
must be based on compensation for the socially necess
production expenditures. If, in establishing prices, one
takes as one's point of departure the worst production
ditions this will mean the recognition of individual exp
tures made in backward collective farms for socially n
sary items. Under these conditions the advanced and a
age collective farms, i.e. the absolute majority of coll
farms, would have an unreasonably high rate of profit t
the redistribution of the national economy. Besides thi
practically impossible to put the proposal into practice
essentially, it would encourage backwardness of agricu
as a whole. This would require the establishment of a
ferent price level for collective farms in the same adm
trative region, where, as a rule, there are both bad an
good production conditions and, as a result of this, gre
differences both in the yield level and in the level of pr
duction costs. It should also be kept in mind that the le
of organizational and economic management of the coll
tive farms also has a great deal of influence on the lat
For example, the yield and cost of grain in Tatarsk Di
trict, Novosibirsk Province in 1956-57 was characteri
by the figures on the next page.

It is clear from the table that in yield levels and gra
costs there are great differences between the collectiv
farms of the same district. If these differences are ta
into account in establishing state purchase prices it w
be essentially necessary to establish separate purchas
prices for each enterprise, but this is practically imp
Then comes the question of what to do to raise the eco
ic production efficiency of collective farms in which th
crop yield is low and the grain cost is high under a sys
of fixed state purchase prices for all collective farms
region or zone. In our opinion this can be achieved thro
a broader specialization of agricultural production, a
rect combination of branches and a rise in the organiz
tional and economic management of backward collectiv
farms. In addition the existing system for taxing the c
tive farms according to income should be reviewed. It
more expedient to exact income tax from that part of t
collective farm's income that is distributed according
work days. In this case the income tax should be set a
cording to a progressive scale.

Collective farms	Yield in centners per hectare			Cost of one centner in rubles and kopeks		
	1956	1957	Average for two years	1956	1957	Average for two years
Bolshevik	4.8	6.1	5.6	60–03	—	60–00
M. Gorky	5.2	6.4	5.8	73–00	—	73–03
Dawn	7.0	7.2	7.1	41–30	56–50	48–90
Stalin	6.7	8.0	7.4	45–00	—	45–00
lyich	7.8	7.5	7.6	37–25	24–90	31–07
Soviet Russia	8.1	7.0	7.6	40–80	42–25	41–52
Stalin's Path	7.8	8.6	8.2	49–82	—	49–82
Siberian Knight	10.0	6.6	8.3	20–88	31–71	26–29
Chapayev	7.2	10.1	8.6	55–40	37–30	46–35
Kuibyshev	9.6	8.0	8.8	34–81	44–50	39–66
Siberia	12.1	6.3	9.2	21–30	54–05	37–68
Chkalov	9.8	9.2	9.5	35–00	34–91	34–95
Lenin	10.7	8.8	9.7	29–93	38–95	34–44
Frunze	11.8	8.4	10.1	19–92	32–76	26–34
8th of March	9.0	11.8	10.4	33–00	25–23	29–11
Krasnoyarsk	9.4	11.4	10.4	30–22	21–44	25–83
8th Congress of Soviets	9.4	11.4	10.4	28–60	27–57	28–08
Kirov	12.9	8.3	10.6	23–39	27–71	25–55
Victory	11.5	10.8	11.1	31–00	—	31–00
Revolutionary Fighter	11.9	10.3	11.1	24–98	—	24–98
True Path	12.4	10.8	11.6	29–20	—	29–20
Thaelmann	12.3	11.1	11.7	22–92	32–36	27–64
Beacon	12.4	11.0	11.7	37–31	—	37–31
Soviet Siberia	12.4	13.0	12.7	31–30	28–49	29–90
May Day	14.3	13.9	14.1	25–13	—	25–13
Zhdanov	16.4	13.0	14.7	23–58	—	23–58
District average	10.1	9.4	9.8	35–00	35–00	36–00

setting the procurement prices according to the aver-
production conditions in the given zones, the greater
ber of collective farms will be able to have a normal
it level, the advanced farms will be able to realize an
eased net income from the prices and some of the col-
ive farms with lagging production levels will doubtless
a lower profit level. However, these farms, too, will
ble to sharply increase production profits under the new
cultural products procurement terms. Under the pro-
ement terms in effect during recent years the collective
ns' production profits depended a great deal on land
cture. It is known that the obligatory delivery norms
grain, potatoes, oil-bearing seeds, vegetables and pork
calculated per hectare of plowed land, while the norms
beef, mutton, wool and milk were calculated per hectare
ll agricultural land. As a result of this, many collective
ns with better quality land were in a privileged position
lling their obligations to the state. For example, take
Stalin Collective Farm and its neighbor, the Zhdanov
ective Farm, Lukhovitsky District, Moscow Province,
of which have about 1000 hectares of arable land. In
Stalin Collective Farm only about 150 hectares of the
le land is plowed and most of the rest is meadow. On
other hand, on the Zhdanov Collective Farm most of the
le land is plowed (about 800 hectares). The Zhdanov
ective Farm made deliveries to the state of grain, po-
es, vegetables and pork at low prices from the 800 hec-
s of plowed land. From all agricultural land, including
ed land, it delivered beef and milk. The Stalin Collec-
Farm, which has better land, made obligatory deliveries
e basis of the same norms as the Zhdanov Collective
n, and mainly in milk and beef from agricultural lands
. Since it is in favorable natural conditions and is not
d by norms to make deliveries of other products to the state, the Stalin Collective Farm has specialized in milk production. This has given it the opportunity to produce a great deal of commercial milk and to sell it to the state at high purchase prices and also to sell it at high prices on the collective farm market.

Since the obligatory deliveries have been abolished and since fixed purchase prices for agricultural products have been established, the collective farms that delivered a great part of their production to the state in the form of obligatory deliveries will gain considerably, their money incomes from selling products to the state will increase, while in collective farms like the Stalin Collective Farm, the money incomes from the sale of products to the state will be reduced if measures are not taken to sharply increase the production of commercial products and reduce expenditures. The collective farms can increase production profits considerably by analyzing the structure of planted land and correctly combining branches and specialization. Since the obligatory deliveries have been abolished this is easily accomplished. Finally, the collective farms with inferior agricultural land can use the labor of the collective farmers to make construction materials locally (bricks, tile and lime) hand crafted articles, etc. and can thus increase money incomes. It should be noted that in the prerevolutionary period handcrafts were widely spread through the central and northwestern regions of the country. From it the peasants supplemented their incomes. Now, too, many collective farms with surplus manpower could make wide use of it in auxiliary enterprises. The acceptance of the proposal to establish procurement prices for agricultural products on the basis of the worst production conditions would actually mean weakening the stimuli to use part of the able-bodied populations in the above-mentioned enterprises.

The decision of the July plenary session of the Party Central Committee and the resolution of the USSR Council of Ministers on establishing stable and mobile prices for agricultural products is of great economic importance. In our country there are regions where the yield level depends particularly on weather conditions. Those regions most affected in this way are the middle and lower Volga area, the Southern Urals, the majority of the regions in Kazakhstan and some areas in Siberia. In years that are favorable from the weather point of view, the collective and state farms in these regions gather large harvests, but obtain quite low ones in the dry years. For the same production expenditures and unchanged prices the collective farms receive a large net income from the sale of their products in high-yield years, but in low-yield years they often fail to cover their production expenditures with their receipts for the products they sell. This makes the planned development of the economy difficult. The establishment of mobile purchase prices for agricultural products would be advantageous for both the collective farms and the state. In high-yield years the production of commercial products is considerably cheaper for the collective farms, therefore the introduction of reductions in purchase prices would stimulate the growth of labor productivity and the development of the collective farms' economy through factors connected with the activities of the latter; and in unfavorable years price rises would be a guarantee of normal development of the collective sector of the collective farm economy.

Of great importance was the remark that as economic production conditions change (increase in labor productivity, and the supplying to the collective farms of modern machinery enabling them to reduce the expenditures of labor and funds per centner of production) the purchase prices for agricultural products cannot remain the same either. With changed production conditions, fixed purchase prices would lead to a violation of the value equivalency of exchange and to an incorrect distribution of the national income between industry and agriculture.

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The collective farms and agriculture as a whole possess enormous reserves, which, if used, would make possible a sharp increase in production and a reduction in its cost and, following from this, an increase in the incomes of the collective farms and collective farmers. The new purchase prices will play a great role in stimulating the use of these reserves.

It should be noted that, while in the past the purchase prices for grain, meat and other important products, especially livestock products, lagged behind the level of prices for other agricultural products, this imbalance has now been eliminated. For example, while the former procurement price for livestock fattened to an average level was 150 rubles and the purchase price for weight II was 410 rubles per centner, the average price for the USSR as a whole for livestock fattened to an average level has now been set at 619 rubles per centner and even higher in some parts of the country.

The differentiation of state purchase prices according to zones is having a great positive influence on the further development of agricultural production. One of the serious shortcomings in the procurement and purchase prices for agricultural products that were heretofore in effect was that they were not differentiated as they should have been according to the natural and economic regions of the country and did not take production conditions into account. The establishment of new prices will aid in increasing the material incentives for collective farms and collective farmers to increase farming and livestock production. When this happens the further increase in collective farm income
will come from a sharp increase in gross and commer
production and from a reduction in the expenditures of
bor and funds per production unit. The collective farm
have great potentials for carrying out these demands.
MTS machinery has now been transferred directly to t
collective farms and the dual management of collective
farm production has thus been eliminated. The abolitio
obligatory deliveries and payment in kind for MTS wor
has created economically advantageous and just terms
all collective farms in selling commercial products to
state. The plans for the sale of commercial products t
the state will be established for the collective farms n
the basis of the current year but on the basis of a five
seven-year period. This will aid in better economic pl
ning and production specialization. All these measures
provide unlimited economic initiative on the collective
state farms directed toward increasing production, re
ing its cost and increasing production profit.

In order to increase production profits it is first of
necessary to reduce the expenditures of labor and fund
production unit and also production costs. However, th
bot expenditures on the collective farms are still extre
high and, as a result of this, so is the cost of one centr
any type of product. The expenditures for the producti
livestock products are especially high. For example, i
majority of Byelorussian Republic collective farms, w
specialize in pork production, the production cost of o
centner of pork, live weight, is 15 rubles. More than 4
work days are expended there for the production of one
centner of pork, live weight, while the figure for Eston
Republic collective farms, where the production condit
are approximately the same, is only 20 work days. In
nection with this, the production cost of pork on Estoni
Republic collective farms is almost half that of the pr
tion cost on Byelorussian Republic collective farms. T
great difference in the level of expenditure for pork pr
tion in the collective farms of the two republics is to b
plained first of all by the different production standard
this branch and by a different level of production orga
tion. In the Byelorussian Republic pork raising has st
not become a fully commercial branch in spite of the f
that all necessary conditions are present. The collecti
farms there have a large number of breeding sows, bu
fattening is done on a limited scale. From each avera
the collective farms obtain two to three commercial p
If one considers that the maintenance of one sow with
spring costs more than 2000 rubles per year it is not
cult to understand why pork production costs so much
Byelorussian collective farms. Obviously, the state ca
compensate the collective farms for these nonproducti
expenditures through purchase prices.

In recent years the economic conditions for produci
milk on collective farms have changed a great deal. T
have begun to produce more fodder, and fodder produc
costs have been reduced. A good deal has been done to
mechanize dairy farms and the milk yield per cow has
most doubled. In spite of all these changes the labor e
iture for the production of one centner of milk in the c
tive farms has been reduced only by 0.6 to 0.7 work da
and now stands at about four work days. In addition, th
penditures of work days to produce one centner of mil
even increased in some provinces and republics and, b
cause of this, no real reduction in its production cost i
visaged. This abnormal situation is first of all the res
of the fact that in this highly important branch of colle
farm production obsolete norms for output and standar

(Continued on Page 13)

Kursky:

me Questions of the Improvement of Planning in the USSR

s the socialist economy grows, the role of planning in formation of its tasks increases. At this time, when at initiative of the Party a radical reorganization of man- ment in industry and construction has been carried out, rights of republic and local agencies in economic man- nent have been expanded and the importance of state- e planning has particularly increased. New, more flex- forms of management assuring exceptionally favorable ditions for the development of local initiative and for the in the management of the economy of the knowledge and duction experience of the millions of workers, engineers, nicians and employees postulate further strengthening ne planning principle in the development of the socialist nomy and require improvements in the forms, methods organization of state-wide planning.

he Party and the Soviet government have carried out a ber of highly important measures to improve planning ne national economy in recent years. Among these are elimination of superfluous centralization in planning, an ease in the role of enterprises in further developing the ative initiative of the masses, intensification of long- ge planning in the national economy and improved plan- ; of organization and material supply. In order to elim- e extreme centralization, the number of indicators of national economy plan subject to the approval of central ncies was reduced. For example, in the resolution of the ty Central Committee and the USSR Council of Ministers larch 9, 1955, "On Changing Planning Practices in Agri- ure," it was established that the state plan for the de- pment of agriculture is to make provision for the volume ommercial production by the collective farms to be de- red and sold to the state to satisfy the population's need food and industry's need for agricultural raw materials. ing these tasks for a point of departure, the collective ns set the amount of land under certain crops, the pro- ivity of animal husbandry, the number of various types vestock. They do this at their own discretion, making imal use of natural and economic resources to raise the ective wealth of the collective farms and increase the erial well-being of the collective farmers.

carrying out the measures for further strengthening the ective farm system and reorganizing the MTS, new con- ons were created in agriculture, which required a transi- to a single form of state procurements—purchases of cultural products. In order to arrive at a more correct nition of the degree of the participation of the collective ns in providing the state with agricultural products, the e 1958 plenary session of the Party Central Committee gnized the need to maintain the per-hectare principle omputing the volume of state procurements of basic ducts but to do so with greater differentiation in the ns of sale of these products in relation to the agricul- l specialization of the agricultural production in the col- ive farms of a given region. It was planned to establish s for the procurement of agricultural products for re- lics, territories, provinces and collective and state ns for a number of years with provision for correcting e plans depending on meteorological conditions and the harvests of various crops. The introduction of the new planning system aided in a steep rise in agriculture.

The number of indicators in the state plan both in the industrial production section and in the materials and machinery supply have been considerably reduced. The rights of the Union republics to plan trade turnover have been extended. The variety of goods distributed on a centralized basis has been reduced. At the present time a government resolution has carried out a further reduction of the number of indicators in the state plan and also in the plans approved by the Councils of Ministers of the Union republics.

In establishing the main proportions for the development of social production, the tasks for the efficient use of labor, material and financial resources of socialist society and a rise in the material and cultural level of the people's life, the state plan adopts as its basis the initiative of republic and local agencies and the collectives of enterprises.

In order to assure high rates of growth in the national economy it is necessary to take into account the enormous potentials and advantages of the socialist national economy system when working out state plans for the national economy. The production experience of the broad masses of the working people must be reflected in the plans for the national economy. Thanks to the transfer of the center of gravity in planning work to the local level—to the economic regions — planners and economists of the economic councils are in a position to study the production reserves directly at plants, mines and construction sites as they draw up and fulfill production plans. Workers, engineers technicians and employees are enlisted in the compilation of plans on a broad scale. Plans worked out directly by the collectives of enterprises and construction projects, economic councils, ministries and departments are at the basis of the state planning system.

The reorganization of management in industry and construction is aiding in the further rise in the creative activities and initiative of the working people and the enlistment of the working people in the management of production on a broad scale. These new forms for the participation of the masses in the management of production and economic planning such as the technical and economic councils of the economic councils, the constantly functioning production conferences at enterprises, branch technical conferences and others have created conditions in which production reserves can be better discovered and used. The December, 1957 plenary session of the Party Central Committee recognized the need of having planning agencies take into account the opinions of trade union committees in preparing draft proposals of production plans. The economic councils considered draft annual plans for enterprises with representatives of the appropriate committees and councils of the trade unions. Discussions of draft plans at general meetings for workers and employees, conferences or production conferences are held on a broad scale.

The advantages of the planned development of the socialist economy are given clear expression in the long-range planning of the national economy. The Party and the socialist state scientifically define the paths for the development of the country over a long period. In doing so they make profound study of the requirements of socialism's economic laws, take into account the growing sources for increases in social production and the potentials for developing science and technology.

At the present time the long-range plan for the development of the USSR's national economy over the 1959-65 period is being worked out. The control figures for the development of the national economy during the 1959-65 period will be considered by the extraordinary 21st Party Congress, which is to be convened on Jan. 27, 1959. The main task of this plan is to assure a further mighty rise in all branches of the national economy primarily on the basis of the growth of the production of the means of production in order to make a major step forward in accomplishing the basic economic task of the USSR i.e., overtaking and surpassing within a very short historical period the most highly developed capitalist countries in per capita production.

The accomplishment of tasks in technical progress, the growth of the scale of capital construction and the expansion of economic cooperation among the socialist countries — all of these things increase the importance of long-range planning in the USSR's national economy. At the present stage of the building of communism, the need has arisen to work out long-range plans for the basic branches of the economy covering a longer period of time as well as working out plans for five- to seven-year periods. The preparatory estimates for such a plan show what a gigantic step forward the Soviet Union can make in the development of its national economy. High rates of industrial development, unattainable for capitalist countries, make it possible not only to catch up to but also to surpass the volume of production of highly important products in the USA within the next 15 years. The growth of the decisive branches of industry by about two or three times and a steep rise in agriculture will make it possible to raise considerably the people's living standard and to achieve a more complete satisfaction of the growing material and cultural demands of Soviet people.

At the present time the problem of combining long-range and current planning is being stated in a new way. With enormous growth in the scale of production, complication of the structure of the national economy and the new system of management in industry and construction, the system of working out and approving annual plans as well as long-range plans does not assure that plan tasks will be gotten to the enterprises on time. Therefore, starting in 1959, the planning for the national economy will be based on long-range plans and tasks will be laid out on an annual basis for individual branches of industry, Union republics, economic regions, enterprises and construction projects.

In case of necessity corrections should be made in the tasks for the coming year provided for in the long-range plan. These changes should be made by the USSR State Planning Committee in conjunction with the Union republics, ministries and departments on the basis of a systematic check on the fulfillment of plans and on a study of the needs of the national economy. After these adjustments have been approved by the government, they will be reflected in the annual tasks of the long-range plans for the Union republics, ministries, departments, economic councils, local Soviets, enterprises and construction projects. The system of working out and approving annual plans will be maintained only for trade turnover, wage funds, fund plans of the USSR State Bank in foreign trade operations and in the delivery of products to the state reserve.

The new forms of management in industry and construction, the extension of the rights of the Union republics and the increase of their role in economic affairs have required an extension of the functions of the USSR State Planning Committee in planning for the national economy and in c ordinating the activities of economic agencies. The USS State Planning Committee has been given the tasks of st ing from all points of view the need for the national econ of carrying out a single technical policy and of defining main lines of development of the national economy and, this basis, of assuring proportional development in all branches and correct distribution of productive forces. USSR State Planning Committee also works out plans fo inter-republic deliveries, the deliveries of products for tional needs and exercises control to assure unfailing ob vation of state discipline in making these deliveries.

The planned management of the socialist economy mu assure balance, i.e., the correct relationships in the development of various branches of production and betwee the basic subdivisions and phases of reproduction. The main national economy proportions in the long-range pla are set, first of all, in tasks for the accelerated develop ment of such branches of heavy industry as the chemica metallurgical, gas and oil industries, electric power, pr sion machine building and the construction industry. Ra rates in the growth of these branches are needed in the terests of a further rise in the socialist economy, tasks technical progress, an increase in labor productivity an an increase in the people's living standard. These branc play an important role in the accomplishment of the mai tasks of the USSR. In order to assure high rates of grow in key branches of heavy industry it is necessary to mak an appropriate distribution of capital investments and m terial and labor resources. The 1959 state plan for the velopment of the national economy provides for increasi the capital investments in the chemical industry more th 1.5 times as compared with the 1957 level and to increa those in the oil and gas industry by more than 30%. It is planned to make capital investments of more than 100,000,000,000 rubles in the chemical industry and contiguo branches of industry in 1959-65.

The modern level of heavy industry and its further ad tageous development and a steep rise in agriculture pro an opportunity to accelerate the growth of the branches light industry. "By the present time," it says in the res tion of the May plenary session of the Party Central Co mittee, "a level has been achieved in heavy industry, sc and technology at which we can increase the production consumer goods at a considerably higher rate without sa ficing the advantageous development of heavy industry a the country's defensive capacity. If this is done it will b possible to satisfy sufficiently the demands of the popula tion for textiles, clothes, footwear and other goods withi the next five to seven years. The accelerated developme of the chemical industry is of great importance to this t An increase in the production of synthetic materials wil greatly expand the raw materials base of light industry.

One of the important tasks in the correct organizatio of planning for the national economy is the combination branch planning on the scale of the entire national econo with territorial planning. The need for the correct comb nation of the branch and territorial sections of the plan lows from the close ties between the branch and territo divisions of labor. "Directly connected with the divisio of labor in general," wrote V. I. Lenin, "stand...the terr torial division of labor, the specialization of individual areas in the production of one product, sometimes one grade of that product and sometimes even a component that product."* The correct specialization of various

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* V. I. Lenin, "Works," Vol. III, p. 377.

onomic regions on the basis of the full use of their eco-
mic and natural potentials forms a firm base for the inte-
ated development of the regions' economy and assures the
ionalization of inter-regional ties.
Under the departmental system of management in indus-
y and construction, planning was done mainly in the branch,
, more precisely, in the departmental sector. The region-
section of the plan for the national economy did not play
y essential role, but passively reflected estimates for the
anch section of the plan. Economic plans for the Union re-
blics did not encompass all industry within the republic,
t only an insignificant part of it (industry under republic
risdiction). Shortcomings in integrated regional planning
l to real imbalances in the economy of the various regions
the country and this, in turn, led to serious losses of so-
l labor to irrational cross deliveries. In this connection,
h the increase in the republics' role in economic affairs
d the formation of the economic councils, territorial plan-
g took on first-degree importance. Conditions necessary
drawing up integrated plans for republics and economic
gions were created.
During the period they have been in existence, the eco-
mic councils have done a great deal of work to bring or-
r into inter-branch ties within the economic regions and
ve done this mainly through the specialization and coop-
ation of enterprises. The working out of problems of the
egrated development of regions has been begun. Steps are
ing taken to overcome imbalances. Direct ties are being
rmed between economic regions and contiguous regions.
wever, a great deal still has not been solved in the mat-
of bringing order into the interdistrict ties on the basis
cooperation. Under the new system, highly important
nctions of the central planning agencies will be the defini-
n of the correct specialization of regions, i.e., correct in
t it satisfies all-Union interests and requirements, the
tablishment of the most rational branch structure of pro-
ction in the economic regions, taking both local natural
d economic conditions and the needs of the entire national
onomy into account, and the definition of the correct pro-
rtions in their integrated development. Scientifically based
anning of the distribution of production and the specializa-
n of regions on the scale of the country's national econ-
ny, together with the assurance of clear-cut and rational
oductive ties between regions will further more complete
alization of the socialist economic system. The Party
ntral Committee and the USSR Council of Ministers have
ken into account the importance of expanding and continu-
sly improving specialization and cooperation as necessary
nditions for the further development of production and have
arged the USSR State Planning Committee to work out a
ecific plan for the development of specialization and coop-
ation in industry and to coordinate it with the Seven-Year
an for the development of the USSR's national economy.
e USSR State Planning Committee is to do this jointly with
Councils of Ministers of the Union republics, economic
uncils, and enterprises.
The planning of materials and machinery supply has an
portant role to play. The territorial organization of man-
ement in industry and construction demands the combina-
n of centralized planning of the distribution of the most
portant material resources among the districts and that
publics and economic councils be granted independence in
use of the stocks they are given. Accurate and timely
complishment of inter-republic and inter-region deliveries
of especially great importance under the new manage-
ent system. However, in practice there are some instanc-
in which some economic councils strive to give highest
iority to deliveries to enterprises in their own economic
region thus violating the plans for inter-regional cooperative deliveries. This does serious harm to the development of the USSR national economy. In a decree of April 24, 1958, the Presidium of the USSR Supreme Soviet resolved that the failure of officials and other responsible persons of enterprises, economic organizations, economic councils, ministries and departments to fulfill plans and tasks in delivering products to other economic regions or Union republics and also deliveries for all-Union purposes is a gross violation of state discipline and carries disciplinary, material or criminal liability.

In order to further improve the organization of materials and machinery supplies to the national economy and to increase the responsibility of the Union republics and the economic councils in this matter, a reorganization of supply and marketing is being carried out according to a decision of the Party Central Committee and the USSR Council of Ministers. It has been resolved that the Councils of Ministers and the State Planning Commissions of the Union republics and the economic councils will bear a full measure of responsibility for the fulfillment of plans and tasks for the deliveries of products to other Union republics, for exports and for other all-Union needs.

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The further improvement of the system of planning for the national economy in accordance with the new organizational forms of management in industry and construction requires in increased economic and technical grounding for national economy plans and a strengthening of the mutual ties between its sections and indicators. The state plan for the national economy is a plan of expanded socialist reproduction. It defines the mutual ties of all the plan tasks and its internal unity. "All plans for individual branches of production," said V. I. Lenin, "must be strictly coordinated and linked and together they must make up the unified economic plan we need." *

A highly important instrument in planning for the national economy, one with which the correspondence between demand and the necessary production volume is checked on and established, is the balance method of planning. On the basis of many years of planning experience in the USSR a system of material, labor and value balances has been worked out and is reflected in the total balance of the national economy. However, the balances system is still not being used to a sufficient degree to provide grounds for plan tasks, to work out a plan for the national economy, all parts of which are coordinated, or to discover reserves for saving social labor. In order to coordinate the production and construction plans with the materials and machinery supply plan and to assure the correct use of material resources, a system has been established according to which the USSR State Planning Committee works out drafts of the more important materials balances and presents them to the Party Central Committee and the USSR Council of Ministers for approval as well as drafting control figures for the compilation of the long-range plan for the development of the national economy.

The most important function of the balances is in determining the needs of the national economy for materials, labor and financial resources in the forthcoming period and sources for the satisfaction of these needs. The growth of consumption is determined by the development of production and in its turn it also influences it. This interconnection between production and consumption is of great importance in planning for the national economy. The demand for the means of production is determined on the basis of the construction and production programs for individual branches and the plan norms for the use of raw materials, fuels, materials and equipment established in the process of drawing up the plan. When this is done the progressive tendencies in the changing structure of production demands should be considered from all sides. The planning of the USSR's fuel balance is characteristic in this respect.

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* V. I. Lenin, "Works" [Russian ed.], Vol. 31, p. 480.

The basis of the country's fuel balance has, until recently, been solid fuel. About 80% of the entire fuel balance is coal, 20% oil and there is an insignificant proportion of gas (considered as conditional fuel). In the decision of the Party Central Committee and the USSR Council of Ministers on the working out of a long-range plan for the development of the USSR's national economy during the period 1959-65, and in the estimates of the prospects for the next 15 years, a new approach to the problem of the country's fuel balance has been defined. Thus, while it is planned to increase coal extraction from 463,000,000 tons to 650,000,000 or 750,000,000 tons, i.e., about 1.5 times, during the next 15 years, oil extraction is to grow from 98,000,000 tons to 350,000,000 or 400,000,000 tons, i.e., four times, and gas extraction from 20,000,000,000 cubic meters to 270,000,000,000 or 320,000,000,000 cubic meters, or 13 to 15 times. This will radically change the structure of the fuel balance in which the proportion of oil and gas will rise to 63% while the proportion of coal will be reduced to 37%. The economic efficiency of these changes is clear from the fact that the labor expenditures for oil extraction are almost six times less than the expenditures for coal extraction (considered in conditional fuel) while the expenditures for gas extraction are about 20 times less than the labor expenditures for coal extraction. It should be emphasized that oil and gas are not only highly economical types of fuel but are also a valuable raw material for the development of the chemical industry.

The possibilities for making more effective use of material resources through rationalizing their use are not always taken fully into account by our planning agencies. For example, in working out the balance of rolled ferrous metals, sufficient attention has still not been given to the reserves of saving metal by improving the designs of machinery, reducing their dimensions and weight, expanding the use of alloyed and low-alloy steels, light alloys, economical rolled metal gages or to the introduction of modern methods of making precision castings and forgings. The situation regarding the lumber balance in the national economy is a tense one. However, great wastes, often amounting to about one half of the total volume of industrial lumber procurements, occur in the production and consumption of lumber. There are great potentials for saving lumber and metal in connection with the expanded introduction of plastics on the basis of the program for the accelerated development of the chemical industry and especially the production of synthetic materials and articles made from them; a program set forth at the May 1958 plenary session of the Party Central Committee. Improvement in the use of raw materials, fuels and materials through planning a rational structure of consumption and discovery of reserves for saving them connected with the development and introduction of advanced technology, is an integral part of the general problem of increasing the productivity of social labor.

A most important element in setting the plan demand in the national economy for raw materials, fuels and materials is the normalization of their expenditures and reserves. The objective nature of the proportions and mutual ties between social production and plans for the national economy is expressed in the extent to which these interconnections are fixed quantitatively. For example, a specific quantity of steel, and consequently of pig iron, fuel, electric power, etc., is necessary for the production of machines and e
ment. All these complex interconnections may be estab
lished by setting norms for the expenditures and reser
of raw materials and materials and also norms for the
of machinery. The plan must provide for the broad intr
duction into production of advanced technical and econo
norms. Socialist production cannot be content with the
ent average norms that have already been achieved. A
vanced norms that take into account prospects for impr
ing the organization of production and labor must serv
the basis of planning. Careful attention must be given t
specific conditions in each branch, the prospects for th
velopment and introduction of new technology, improve
in the organization and technology of production and the
semination of the experience of innovators, in forming
foundation for advanced technological and economic no

The introduction of norms into production reserves i
integral part of the planning of material resources. Un
recently the reserve norms for many types of material
which there was a shortage were low and these norms
not contribute to the rhythmical operation of enterprise
and construction projects. In assuring a steady flow in
entire process of reproduction, the reserves should no
ceed normal limits. In any other case materials stocks
leave circulation. The solution of the problem of creat
norms for the reserves of raw materials, fuels, and m
rials requires an intensification of the development of
material and extraction industries. The correct organi
tion of materials and machinery supply and transportat
makes it possible to avoid situations in which reserves
out of circulation within the national economy and, at t
same time, aids in reducing the shortages in some mat
rials.

Planning in the national economy requires fixed rela
ship in the distribution of material and labor resource
accomplish this task labor balances are being worked
in which the demand for manpower and sources of man
power are determined. The labor balance takes on esp
ly great importance in the new long-range plan. Durin
this period, contingents of the population born between
and 1946 will arrive at working age. These years were
ones in which the birthrate was lower than normal as a
sult of wartime conditions. This circumstance require
there be a broader enlistment into social production of
isting labor reserves from the cities and the countrysi
and a search for new potentials for increasing labor pr
tivity. However, in working out long-range plans local
cies often show localist tendencies and attempt to prov
there is a need to eliminate the manpower shortage by
ing manpower from areas in which there is a surplus t
areas in which there is a shortage.

The role and importance of cost balances, which sho
show the relationship between payment-in-kind and co
ments in reproduction, are increasing in the modern st
of economic construction in the light of a fuller use of
law of value in the planned management of the national
omy. For example, the production of the means of pro
tion, which are the elements in the basic funds, must b
lated to the planned scale of capital investments. In or
that the capital investment program be really assured,
must be a relationship between the value of the equipm
and building materials produced and the financing of c
investments. However, in actual planning practice the
often instances in which the necessary relationship be
the material resources appropriated and the scale of f
ing is not present. The Party and the government requ
that in the long-range plan the volumes of capital inves
ments and of construction and installation work at con

n projects be set for the entire construction period and t they be assured with financial and material resources the basis of the established completion dates and con- uction norms. The distribution of capital investments st assure, first of all, that projects already begun be npleted as rapidly as possible.

Planning must assure the necessary balance between the rket stocks and the volume of goods turnover on the one nd and the purchasing demands of the population on the er. The balance in money income and expenditures of the pulation is of great importance in planning. It is a neces- ry instrument for planning goods turnover, salary funds l retail prices. An increase in the population's income as result of increased wages, the increase in the money in- mes of the collective farmers and the introduction of the v law on state pensions demands a greater expansion of ods turnover on the basis of increased production of con- ner goods, an increase in the amount of agricultural prod- s received and the establishment of the correct relationships tween stocks that are in markets and stocks that are not.

The achievement of balance in the development of the na- nal economy requires that balances be worked out not ly on the scale of the entire country but also on the terri- ial level — by republics and economic regions. It is es- cially important to work out such balances at the present ne in connection with the transition to the new system of nagement in industry and construction on the basis of onomic regions. It is impossible to discover all the com- ex ties that are formed in socialist reproduction if one is the center. This problem can be solved by working out lances both on the scale of the national economy and on e republic, economic-region, territory and province scale.

Territorial balances are necessary to provide the grounds the correct distribution of productive forces, the inte- ted development of regions and the specialization and co- eration of production. In setting up the sources for cover- the needs of a given region through the maximum use of al resources and taking into account the prime tasks of isfying all-Union needs, the territorial balances must aid naking the correct combination of state and local interests.

An important instrument in assuring the correct propor- ns in planning is the national economy balance. It is a stem of coordinated economic indicators, which charac- ize the conditions and results of socialist reproduction a whole. The plan balance of the national economy makes ossible to discover how the more important proportions l ties in socialist reproduction are reflected in the plan for the national economy, i.e., between two subdivisions of social reproduction, branches of the national economy, between material production and the nonproductive sphere and between consumption and accumulation. The summarized balance of the national economy makes it possible in drawing up plans to establish whether the relationship between the material and cost sides of reproduction and the use of labor reserves is being assured.

In connection with the transition to management in industry and construction according to the territorial principle and the increased role of the Union republics in the management of the national economy, the development of basic divisions in the balance of the national economy for both the Union republics and the USSR as a whole on the basis of a single shcheme and methodology has taken on great importance. The main feature of the scheme of the republic balances is that on the one hand, it must include indicators of the extent to which the republic's needs are being satisfied from internal sources and from imports from other republics and, on the other hand, must establish the size of the social product which must be sent to other republics and used to form all-Union stocks. The balance of the social product and the republic's national income as well as the USSR's national economy balance, must consist of actual prices and must reflect the real ties in reproduction. At the same time there arise tasks of measuring the part of the social product that is produced in the given republic and the part that is actually used in it and also tasks of working out a system of value indicators for comparison of the social product and national income by republics.

An increase in the level of the economic grounding of plans for the national economy demands careful comparison of the expenditures of social labor with the production level achieved and evaluations of the economic efficiency of planning measures, especially in solving problems of the distribution of capital investments by branches and economic regions and of the development and introduction of new technology. The balance method of planning must be combined with an economic evaluation of the various directions that may be followed in the further development of the various branches of production and the basic trends in technical progress. As a result of the research work and the generalizations from experience that have been made in this field in recent years, many methodological problems have been solved. However, in the future, planning agencies should work out the problems in more specific terms.

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reckoning workdays for workers in dairy farms are still effect.

Measures like the introduction of a scientific farming sys- n will be of great importance in a sharp increase in agri- ltural production. The introduction of a scientific farming stem into the state and collective farms is a matter of general portance for the state and is of first-degree significance.

The increase in the economic efficiency of production will pend in great part on the further introduction of modern chinery into collective farm production and on an expan- on of the number of mechanized jobs in all branches of riculture. Socialist industry must continue to deliver ore and more machines to agriculture. But technical ogress in agriculture is no longer set only by industry. great deal will depend on the initiative of the collective rms and on the amount of funds they set aside to buy ma- inery. It is known that formerly the expenditures for buying machinery were born directly by the state. Under the new system, according to which the collective farms will buy machinery themselves, they will receive the funds necessary for covering the given expenditures through the new purchase prices.

A great deal of attention must be given to the broad use by the collective farms of local organic fertilizers and improved seed culture and breeding. All this should aid in making a further rise in agricultural production.

The measures taken by the Party and the government in changing the prices for, and the terms for, procuring agricultural products will aid the rapid growth of the country's economy and the strengthening and the development of the economic ties between industry and agriculture and a further strengthening of the union between the working class and the peasantry — the unshakable basis for the building of the communist society.

L. Berri and A. Efimov:

Current Problems of Planning Specialization in Machine Building

In all the stages of building socialism, the Communist Party and the Soviet government have directed and continue to direct the development of our industry along the path of specialization and cooperation. The latter are becoming increasingly important for the growth and the improvement of socialist production. A program of further development of specialization and cooperation was formulated at the 20th Congress of the CPSU. On the basis of the thoroughgoing studies of the present situation of specialization and cooperation and with consideration of the requirements of advanced technology and the new, larger scales of production, the Party and the government proposed a number of important measures regulating the specialization of existing enterprises, creating new specialized plants and shops of mass production of semi-fabricates, parts, units, and aggregates.

The concrete perspective plan of the development of specialization and cooperation which is now being worked out is an important component part of the Seven Year Economic Plan. Liquidation of the shortcomings in the area of specialization and cooperation brought to light at the July 1955 Plenary Session of the Central Committee of the CPSU, and the further, rapid development of these forms of organization of production are a powerful factor in raising labor productivity and increasing the volume of output.

The position of the Soviet Union in the economic competition with the most advanced capitalist countries becomes stronger every year. The entire world is familiar with the achievements of Soviet industry in the field of perfecting technology and organization of production. Specialization and cooperation play an essential role in the mighty advances of Soviet industry. Soviet machine building has achieved major successes in the area of forming new branches of machine building, and in the development of product specialization of plants. At the same time, industry still lags behind the industry of the most advanced capitalist countries, primarily, the USA, with respect to the level of technological specialization and parts specialization. Making use of the advantages of a planned economy, our industry can and must catch up with and surpass the industry of the USA in this respect, within the shortest historical time interval.

In a number of capitalist countries, and in particular in the USA, industrial specialization has developed on a large scale. The fact that in the majority of the branches of the machine building industry the relative share of basic production (corresponding to the specialization of the branch) amounts to more than 80 per cent of the volume of output of these branches, testifies to the development of product specialization in the USA. Technological specialization and parts specialization have developed with particular intensity in US industry: over 50 per cent of pig iron output and about 3/4 of steel output is turned out by specialized plants. An overwhelming part of US machine building plants do not have foundries and forge shops. Specialized enterprises produce parts, assemblies, aggregates, etc. for the machine building enterprises and for the equipment pool of the USA. Thousands of supplier firms turn out parts and assemblies for the automobile industry, the electronics in
try, the electrical industry, and other industrial branch
Among these firms there are specialized enterprises
equipped with the latest technology. For example, the S
Corporation turns out thousands of automobile frames e
day. There are firms that produce wheels for passenge
cars and trucks, and firms that specialize in producing
axles, crankshafts, etc. All of these facts indicate the n
for a careful study of the experience in the area of spec
zation of production in the industrially most highly deve
ed capitalist countries.

However, one should approach the study of the experi
with specialization in capitalist industry very critically
is known that the anarchy of production and competition
have put a certain imprint on the specialization process
in the capitalist countries. Thus the dispersion of the p
duction of truck trailers in the USA among 400 firms an
the production of truck bodies among 900 firms testifies
an unfounded scattering of the means of production and
labor power. An analogous situation exists in other bra
For example, 18 firms are engaged in producing socket
the electronics industry in the USA.

The contradictory nature of the development of specia
tion under capitalism is expressed in the lowering of its
tent in years of depression and diminished production,
differentiation of production that has developed in recen
years, and in the resulting intensified competition betw
corporations. One can therefore conclude that even thou
the industry of the Soviet Union still lags behind the ind
try of the USA with respect to the level of technological
specialization and specialization of parts, this does not
mean that we should develop specialization in our econo
along the same lines as in the USA, where it is determi
by the anarchy of production. In a planned economy the
level of concentration of output in enterprises specializ
with respect to technology and specialization of parts c
and must be far greater than in the USA.

The advantages of a planned economy have already se
cured to Soviet industry superiority in the area of prod
specialization in many branches of the machine building
industry. This is shown especially by a study of the dat
concerning the development of machine-tool firms in th
USA. The extent of branch specialization of the machin
tool firms in the USA is very great. However, speciali
tion of firms, within the branch, with respect to the out
of certain groups and types of machines proceeds more
slowly; this is caused by the intensified intra-branch c
petition. Thus the extent of specialization of firms in p
ducing certain groups of machine-tools is considerably
lower than for the branch as a whole. The most special
machine-tool firms (the relative share of the basic out
amounting to 75 per cent or more) produced 73.2 per c
of the shipped production of that branch. Firms produc
boring machines which were specialized in the same ex
tent, produced only 19.8 per cent of the output of this g
firms producing drilling machines produced only 39.7 p

t of the output of their group; and firms producing lathes duced 17.8 per cent.

n a planned socialist economy there are possibilities of cise division of labor within a branch between enterpris- that produce machines of certain groups and types. In ticular, the specialization of machine-tool enterprises he USSR with respect to the output of certain groups of chine-tools has developed on a large scale. As a result output of these groups of machine-tools is concentrated our economy in a small number of machine tool enter- ses, while in the USA it is dispersed among numerous ns.

n recent years the volume of output of machine-tools in USSR and the USA have been about the same. When we sider the indicators of this industry in the USSR and the A mentioned above, we can assert that the scale of nilar production of machine tools in the USSR is higher n in the USA. This is also confirmed by the following a: Of the 639 machine-tool firms in the USA in 1954, 221 ployed less than 4 employees, 75 employed from 5 to 9 ployees, 77 employed from 10 to 19 employees. The rela- e share of these groups of firms in total output of the chine-tool industry is insignificant. In the Soviet ma- ne-tool industry there are no minute enterprises, where, general, production of a similar output to a more or less ge extent is impossible.

n a report of the Joint Economic Committee of the US ngress which compares the economic growth of the USSR of the USA it is asserted that the incapability of the SR to make use of all the advantages of specialization of duction exerts a restraining influence upon the increase industrial output. The authors of the report explain the rtcomings in the area of specialization of production in USSR in terms of the rapid rate of growth of industriali- ion and difficulties in the system of material-technical plies. The authors of the report write: "The Soviet lead- have pointed to these difficulties, but their correction l be comparatively slow, unless some decline in the rate industrialization takes place."

There is no need to prove that all of these arguments are ounded and thoroughly incorrect. In reality the high e of industrialization in the USSR promoted rapid develop- nt of specialization of production, accelerated formation new and the breaking up of old industrial branches. The velopment of specialization of production was in its es- ice an organic element of the industrialization process. e high rate of industrialization not only promoted the de- opment of specialization but to a certain extent was itself sed by accelerated development of specialization. The nstruction, in the USSR, for the most part of complex nts specialized with respect to product (with a full set of pply and auxiliary shops) resulted from a number of his- ical causes: the structure of pre-revolutionary plants, new construction, at times in regions that were not pulated, etc. All of this led to relatively weak develop- nt of parts specialization in Soviet industry. The depart- ntal management was also responsible for a certain mage to the development of specialization; it brought ut a tendency to self-serving within the framework of departments, etc. The absurdity of the above assertion, t the shortcomings in the area of specialization were sed by the rapid rate of industrialization, is thus obvious. reality it is precisely under capitalism that all the ad- ntages of specialization of production cannot be fully ex- ited. The example of the machine-tool industry is con- cing proof that the capitalist economic system, with its rchy of production and competition, is incapable of mak- full use of all the advantages of specialization of produc- tion, whereas in socialism there are opportunities of developing specialization in the most rational forms.

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Improvement of the organizational forms of social production, in the first place of specialization and cooperation, is effected in socialism on the basis of the planning principle and in correspondence with the economic laws of socialism. This defines the necessity of elaborating the scientific foundations of planning specialization and cooperation.

In this article we cannot fully elucidate all of the scientific problems of planning specialization and cooperation and we shall therefore dwell on a few of the more important problems. Among these more important problems, in our opinion, should be included the question of the indicators of specialization and cooperation, of planning the scale of specialized production and the degree of specialization, the spatial distribution of specialized enterprises, the internal structure of the enterprises, the technical premises of the development of specialization, and certain questions of the method of planning and economic stimulation of specialization and cooperation.

An objective evaluation of the current situation of specialization and cooperation of industry of the USSR is possible only on the basis of a total account of the processes of specialization. At the present time statistics do not yet fully reflect the dynamics of specialization, which makes the solution of certain questions of specialization and cooperation more difficult. Hence in describing the processes of specialization up to now recourse is had to indicators of individual enterprises which — though they are very important — cannot present an idea of the situation of specialization and cooperation as a whole in the machine-building industry and in its separate branches.

The Institute of Scientific Economic Research of the Gosplan of the USSR proposed a system of indicators describing the basic aspects in the development of specialization and cooperation in the industry of the USSR. These indicators were recommended by the Central Statistical Administration for use in statistical accounting. We shall mention those indicators which, in our opinion, are the most important: (1) the relative share of the output of the specialized branch in the overall volume of output of a given type of output. This indicator gives an idea to what extent a certain branch was formed, and it enables an evaluation of the economic role of the specialized branches in social production. It can be calculated both for the economy as a whole as well as for individual republics and economic regions; (2) the relative share of basic output in the total output of a branch or an enterprise. This indicators describes the degree of homogeneity of output within a branch or within an enterprise; (3) the share of the output of enterprises and shops specialized with respect to parts in the total output of the machine-building industry as a whole and in its separate branches; (4) the relative share of purchased products and semi-fabricates in the total value of the output. This indicator permits an evaluation of the development of production connections of enterprises. It must be supplemented by data concerning relationships of intra-regional and inter-regional cooperation between individual enterprises, branches, and regions.

This system of indicators gives a general idea of the development and the extent of specialization and cooperation as a whole in the machine-building industry and its branches. For a more thoroughgoing description of the specialization of enterprises and shops use can be made of other indicators, for example: (1) the number of type dimensions of the produced goods; (2) the number of technologically homogeneous groups of products turned out by a given enterprise and the relative share of the basic groups in the output of the enterprise; such grouping of production permits a correct approach to a definition of the profile of the enterprise; (3) the coefficient of seriality (with respect to the basic shops of the enterprise). The extent of specialization of enterprises and shops is also characterized by the specialization of the fixed means of production and of technolgical processes: by the relative share of progressive groups of equipment (specifically, automatic and semi-automatic equipment, etc.) in the overall pool of equipment of the enterprise or shop, by the relative share of equipment installed in production lines, by the relative share of advanced methods of fabrication (for example, machine casting, stamping, etc.) in the overall volume of work.

Under the territorial principle of industrial administration there are created favorable conditions for the development of specialization of production of the economic regions. In a brief period of time the economic councils have done important work in improving specialization and cooperation. The economic councils are doing particularly important work with respect to the concentration of the production of semi-fabricates and parts in large, technically well-equipped shops. As a result, the economic effectiveness of production increases significantly. The execution of measures concerning specialization by the Economic Council of the City of Moscow alone yields a saving of over five hundred million rubles of which 93 million rubles applies to 1958.

Measures designed to increase concentration of production of homogeneous outputs and to increase the extent of specialization of enterprises and shops executed by the economic councils are of major significance. It must be noted, however, that in solving these questions the economic councils are oriented to the needs of a single administrative economic region, which is not always correct. As a result there are sometimes proposed such scales of production in the specialized enterprises and shops which are inadequate for the utilization of progressive technology. For example, some economic councils of the Ukrainian SSR have proposed to organize within their jurisdiction specialized bases for the production of metal products, of standard instruments, etc., orienting themselves to the needs of their region. Calculations of the Gosplan of the Ukrainian SSR have shown that it is economically more expedient to create larger specialized enterprises and shops that would serve the enterprises of several economic councils with parts and semi-fabricates. The Astrakhan Economic Council has proposed to organized specialized production of 600 tons of quality electrodes per year. It must be admitted that such a volume of production is insufficient.

A number of economic councils proposed to organize production of metal props on a small scale of approximately three thousand tons per year; but effective utilization of highly productive technology requires considerably larger scales of output. For example, a model project of a shop producing small props worked out by the Giprometiz Institute (Leningrad) foresees an annual volume of production of metal props amounting to 40 thousand tons. Output per worker and per square meter of area exceed by more than twice the corresponding indicators of the Leningrad steel rolling mill which has a shop whose annual output exceeds 9,000 tons of metal props. It should be noted that automatic machinery can be used up to its capacity only with a volume of output of some 10,000 tons and that the application of bolt makers is associated with an increase of the scale of annual output up to 30 to 40 thousand tons. With an annual output of 3,000 tons of props the average cost per one ton amounts to
2,500 to 3,000 rubles, while with an annual output of 10,
tons and with an appropriate level of technology, the cos
declines to 1,600 to 2,000 rubles per one ton.

For an economic justification of the size of specialize
operations one must work out the technical and economi
characteristics of enterprises and shops with different
scales of a homogeneous output. A systematization and
analysis of data pertaining to a large group of enterpris
permit a judgement concerning the dependence between t
scales of production and the economic indicators. As ar
lustration one can introduce data concerning the output
forging semi-fabricates (seeTable A on following page).

The dependence between the scales and economical p
duction reduces itself to the point that labor productivit
increases and costs of production systematically decre
as output increases on the basis of increasing the level
technology and improving the utilization of equipment. H
ever, at the same time the zone of consumption of a giv
output is enlarged and the radii of cooperation (when pa
and semi-fabricates are considered) are increased, whi
has an unfavorable effect upon the total sum of social c
of production. When the radii of cooperation are increa
transportation costs rise and the norm of circulating ca
is increased. In this connection a certain part of the sa
resulting from lower production costs is lost. Table B
presented below shows how transportation costs limit t
radii of cooperation.

The Table shows that large forges turn out a cheaper
output than small forges. On the basis of the data of thi
Table one can determine the upper limits of cooperatio
radii, but this takes into consideration only two factors:
The volume of output and transportation costs. The pra
ticable radii of cooperation are considerably lower bec
the range of cooperation is also determined by the tran
portability of the output, by the necessity of an operatio
connection between the supplier and the supplied, etc. C
viously, transportation costs must not eat up the entire
ings resulting from increasing the sale of specialized o
erations.

A complete analysis of the special characteristics of
given operation is required for a definite solution of the
problem of what radii of cooperation are permissible.
is known, for example, that individual economic council
and entire economic regions have a relatively small ne
of large, technologically homogeneous forgings. At the
same time, the production of such ingots requires uniq
hammer and press equipment of high capacity and high
ductivity. Therefore, the organization of specialized op
tions of a given output as well as an analogous output r
quires division of labor on an economy-wide scale. Ind
ual forges should be therefore purposefully specialized
produce definite types of forgings from ingots and heav
stampings (for example in the production of shafts, rot
etc.). The capacity of such specialized operations shou
be calculated starting from the need for such forged se
fabricates by the economy as a whole or the need for th
of a number of regions. As far as various types of ligh
and medium ingots and stampings are concerned, the m
ity of economic councils which have a sufficiently deve
machine-building industry can organize within their ju
tion appropriate specialized forging operations. In that
the radii of cooperation are limited within the boundari
a single economic council, or several adjacent economic
cils. In every city of some size or in a region with a machi
building industry it is appropriate to organize special forg
that produce ingots and stampings to be used for repair an
ploitation needs because such production requires first of
an operational relationship between supplier and supplied

Technical-Economic Characteristics of Different Scales of Forging Operations

Scale of output (thousands of tons)	Extent of technological specialization (% of semi-fabricates received in special punches in total output in tons)	Coefficient of seriality (number of types of semi-fabricates per work place)	Per unit of equipment (tons per year)	Output of forging semi-fabricates per worker (tons per year)
1.5	20	100-80	300	35
5	30	70-50	1,000	45
10	50	50-40	1,150	65

The Influence of Cooperation Radii Upon Total Outlays of Enterprises-Purchasers

rrangement of enterprises ccording to annual volume f output	Production cost per ton of ingots (in rubles)	Total production and delivery expenditures to the purchaser (in rubles) per ton of ingots* with a transportation distance of:					
		500 km	1000 km	2000 km	3000 km	4000 km	5000 km
up to 150	2763	2821	2843	2890	2940	2990	3040
500	2336	2394	2416	2463	2513	2563	2613
1,500	2152	2210	2232	2279	2329	2379	2429
5,000	2023	2081	2103	2150	2200	2250	2300
10,000	1979	2033	2059	2106	2156	2206	2256
20,000	1956	2014	2036	2083	2133	2183	2233
35,000	1873	1931	1953	2000	2050	2100	2150

redominantly forging ingots.

n determining the economically appropriate scale of op-tions, in particular the minimum size of forges that ke possible the full utilization of a modern system of ma-nes, two factors should be kept in mind: The capacity of forge-press equipment and the magnitude of the assort-nt of ingots and stampings turned out by the forge. In this nectiôn, the minimum volume of output will be very con-erable for one type of forges (here are included forges ipped with heavy equipment to produce forgings from in-s and heavy stampings, as well as forges which produce it and medium stampings in large series). For another e of operation (where we must include shops of free forg- which produce ingots of small and medium weight), the imum permissible volume of output can be significantly er. In the first case the annual output amounts to several s of thousands of tons. In the second case, it amounts to m five to ten thousand tons. These recommendations with pect to the size of forging operations should naturally be-ne more precise in the process of planning in every con-te case. The illustration is, in our opinion, of a certain thodological interest. At the basis of the determination he size of specialized operations should be calculation production costs on the spot where the output is utilized calculation of the specificity of the given operation (the ire of the operation and the requirements of a given out-).

he problem of selecting the most appropriate size of cialized operations becomes particularly timely under ditions of a territorial system of industrial administra-. The size of specialized enterprises and shops in the crete circumstances of a given economic region should the complex development of its economy and the devel-ient of rational inter-regional division of labor. The a-regional or inter-regional nature of each specialized rprise or shop depends upon the concrete conditions of the region (its resources, needs, etc.) and on the specific characteristics of a given operation. A narrow local approach to the solution of these problems in inadmissible. It leads to unnecessary capital expenditures, to an increase of specific capital investments, and to a direct violation of state interests.

We have examined above various technical and economic indicators which depend on the extent of specialization of operations. Thus far we have not yet considered the influence of the degree of specialization in a precise sense of the word. The greater effectiveness of large forges, or, let us say, of large foundries, reflects, in essence, the effectiveness of the concentration of production. These indicators of effectiveness are very important because the economic advantages of specialization show themselves distinctly only in case of large-scale production. However, the degree of specialization of foundries, of forges, and of other operations can be more or less large, and this in turn reflects itself in an essential manner in the economic indicators. The facts testify that technical-economic indicators of narrowly specialized forges and foundries are much higher, in comparison to the largest but less specialized foundries and forges.

Of particular interest in this connection is the analysis of the influence of the degree of specialization (characterized in the Table by the growth of seriality of operations), with different scales of production, upon the technical-economic indicators, which can be illustrated by the data on the following page.

In the Table below is reflected the significance of each factor separately. It is clear that the total effect of the two factors yield a maximum economic effect.

The example of forging operations was used to attempt to show what tasks are to be solved in selecting the rational dimensions of specialized operations.

Output of Forgings and Stampings Per Worker as Related to the Seriality and Concentration of Production

Type of output	Output per worker (tons per year) with a volume of output of:			
	up to 1000	1000-5000	5000-10,000	over 10,000
Small-serial	8-22	27	—	—
Small and medium serial	15-30	24-45	—	38.8
Medium serial	20-35	37-38	—	—
Medium and large serial	—	30-56	43-68	78-200

The development of parts specialization and the establishment of assembly plants will introduce radical changes in the theory and practice of spatial distribution of machine-building enterprises. Given such specialization there arises a tendency to bring the assembly plants closer to the regions which use the corresponding machines. The task is to bring purposefully closer the operations specialized with respect to parts in one case to new material bases, the metallurgical center; and in other instances to the machine-building centers, the regions which use the parts. We shall bring up a few examples.

The spatial distribution of the production of heavy ingots is closely associated with the spatial distribution of the metallurgical industry. Being a large consumer of metal, this industry is responsible for the necessity of repeated utilization of metal scrap in metallurgical operations. For example, in the production of large ingots for turbines the annual output does not exceed 45 to 50 per cent of the weight of the original metal. For this reason the construction of new, and the reconstruction of old shops producing large ingots must be done, in the first instance, in regions with a developed metallurgy.

A second example is the production of steel structures for the machine-building industry. In many machine-building enterprises the production of steel structures occupies huge areas. Some economic councils such as for instance, the council of the city of Moscow, the council of the Moscow region, and others raise the question whether machine-building enterprises should not be freed from the necessity of producing steel structures for turret, mobile and other cranes, for reservoirs, etc. The experience of Soviet industry testifies to the purposefulness of segregating this production in an independent branch and of changing its spatial distribution. In our opinion the production of semi-fabricates and the assembly of transportable sub-assemblies of structural steel parts should be organized in places where there is produced profiled rolled metal and sheet metal with a subsequent final assembly in places where they are used.

The spatial distribution of machine-building enterprises depends on the structure of the national economy and of the industry of individual zones and regions of the country. The machine-building industry is characterized by the principle of interdependence of spatial distribution of enterprises. Practice proves that each of the machine-building industrial complexes (for example the Kharkov complex, the Sverdlovsk complex, the Cheliabinsk complex, etc.) has its profile and branch structure which depends on the structure of the economy of the region and upon other factors. The combination of several machine-building operations in a single center provides a number of economic advantages and facilitates the solving of questions of specialization and cooperation. The branch structure of machine-building agglomerations determines the nature of cooperative relations both within the region and between regions. An advance of t scientific level of planning specialization of the machin building industry requires a more precise definition of profile of specialization of individual machine-building ters.

It should be emphasized that the theory of spatial dis bution of specialized machine-building operations has n been adequately worked out. This is a serious obstacle the way of the practice of economic construction. Amo the urgent questions that should be worked out is the fo lation of a network of specific production and consumpt zones of particular types of machine-building output. It clear, for example, that production and consumption zo of large steam turbines will be different than the zones production and consumption of electronic products, or, us say, of equipment of the communal economy.

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The development of parts specialization and of techn ical specialization of production leads to simplification the production structure of enterprises, which also me an increase in the degree of output homogeneity. The i ternal production structure of US machine-building ent prises is of interest in this connection. Let us examine, fo ample, the production structure of US machine-tool enter in 1954. The study covered 357 firms; about 300 of the sma firms were not included in the study (see Table next page).

The data of this study testify to the considerable dev ment of technological specialization. Most US machine firms do not have their own foundries and forge-press (only 19 foundries and 5 forges for 357 firms). More t two-thirds of all firms do not have tool shops. All this that large-scale production in specialized enterprises ducing castings, ingots, tools, etc., is possible. At the time these data show the dispersal and small scale of duction subdivision in the US machine-tool industry. F example, of the 311 mechanical assembly shops, in 35 shops there worked less than 4 workers, in 93 shops le than 19 workers. In such small shops it is hardly poss to apply advanced organization of production

Such a dispersal of operations is characteristic of many other branches of American machine-building as well. For example, on the basis of the data of the 1947 Census of Manufactures one can form a general idea concerning the production structure of machine-buildin firms. Of the 10,250 mechanical assembly shops 2,844 ployed less than 4 workers, 3,393 less than 19 workers In the 1,009 foundry shops 205 employed less than 4 wo ers, 205 employed less than 19 workers, 226 less than workers, etc. Thus the structure of American machine building enterprises has both positive and negative asp It is necessary to study the experience of American in try carefully but also critically.

The non-rational structure of many capitalist enterp

Shops and departments	Total number of shops and departments	Their distribution according to the number of workers in production			Number of workers in the last group (on the average per firm)
		1 to 4	5 to 9	20 or more	
Foundries	19	2	6	11	113
Non-ferrous foundries (in metallic forms)	4	3	1	—	—
Forge-presses	5	2	3	—	—
Electro-plating	19	13	6	—	—
Galvanization	5	3	2	—	—
Thermal	93	61	23	9	38
Metal Props	70	38	23	9	60
Mechanical assemblies	311	35	93	183	176
Tools	102	30	48	24	60
Models	63	29	25	9	26
Structural metals	42	18	17	7	39
Semi-fabricates (bending, cutting, etc.)	33	22	11	—	—

he result of the anarchy of production, of the stratifica- in the structure of enterprises resulting under the in- nce of fluctuations of demand and supply, and a direct itage of the spontaneous development of the economy on hole. The non-rational nature of the internal structure nany capitalist enterprises is organically connected with nature of the capitalist economy.

tudy of the structure of enterprises of socialist industry ws that in many cases there is felt the influence of a nber of historical factors as well as of shortcomings of nning that existed under the system of departmental ad- iistration of industry. The universal nature of pre- olutionary machine-building enterprises, the necessity onstruction, during the first years of industrialization, nterprises with a full set of semi-fabricate and auxiliary ps — all of this was responsible for the structural pe- iarities of many Soviet machine-building enterprises. At same time there were gradually created the conditions the improvement of the structure of our machine-build- enterprises on the basis of development of parts spe- lization and technological specialization. However, under former system of administration these possibilities were dequately utilized. Under the departmental system of in- trial administration there was observed a tendency to f-serving, to a peripheral development of auxiliary and ts shops and divisions of the enterprises, and in many es even a worsening of the structure of new enterprises.

t the present time the premises exist for a sharp im- vement of the internal structure of our machine-building erprises. Soviet industry has attained a level of develop- nt which makes possible and necessary an accelerated wth of parts specialization and technological specializa- . The economic councils have the opportunity to improve structure of their enterprises on the basis of concentra- of production of individual types of parts and semi- icates in large shops. In the proposals of a number of ject, working and technological institutes it is ac- wledged as purposeful to liquidate a large number of ll uneconomical shops: 118 steel foundry shops, 746 iron foundry shops, 290 non-ferrous metal foundry os, and 430 forge-shops. The production of metal props roposed to be concentrated in 114 enterprises as against 1,350 enterprises presently engaged in this production. production of welding electrodes is presently carried h 230 enterprises; it will be concentrated in 22 enter- es. The production of gears is proposed to be concen- ed in 135 specialized enterprises, shops and divisions while more than 200 enterprises will be freed from producing them. The number of enterprises producing industrial armatures is proposed to be reduced from 126 to 76. Naturally the liquidation of any particular shop or division must be justified economically and technically. The goal is not the creation of gigantic shops or enterprises specialized with respect to parts, but to concentrate production of homogeneous outputs on a large scale, even in small shops. In particular cases it is entirely expedient to concentrate production of parts of two or three types within one shop.

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The economic effectiveness of specialization depends directly on the degree of concentration of homogeneous production. It should be emphasized, however, that the concept of homogeneity of output itself is not entirely definite. In formulating the profile of specialization of a particular enterprise there often occur fruitless arguments about what should be considered the basic output of that enterprise. In many instances the product mix is distributed non-rationally among machine-building enterprises because up to now there were not worked out the appropriate descriptions of output with respect to the characteristics of homogeneity. Of exceptional significance is, for this reason the problem of establishing a uniform system of machine classification with respect to construction and technological characteristics, based in turn on a classification of parts and subassemblies. This problem is of particular importance for the machine-building industry, since the output of this branch is exceptionally heterogeneous: according to data, which are far from complete, there are more than 2,500 basic types of machines and other products which are subdivided in turn into tens and hundreds of sub-types. In the machine-tools branch alone there will be produced in the coming years machine-tools of 1000-1200 sub-types; in the branch of agricultural machine-building will be produced machines of 900 sub-types, etc. Regardless of such a heterogeneity of machines, many of them have a number of general characteristics of construction-technological homogeneity, which permits the concentration in specialized enterprises of the production of a quite wide product mix. In this connection it is appropriate to recall the well-known proposition of Marx, that "Mechanics, regardless of the great complexity of machines, is not deceived because they all represent a constant repetition of elementary mechanical forces."*

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* Karl Marx, "Capital" [Russian edition], 1954, Vol. I, pp. 491-492.

It should be noted that the characteristics of construction-technological homogeneity of machines can and must be defined not only with respect to the product as a whole but also with respect to the parts and sub-assemblies. Among these characteristics, in our opinion should be included construction peculiarities of the dominant sub-assemblies and parts (for example, pumps, radiators, gear-boxes, shafts, bushings, gears, etc.), clearance-gauges of sub-assemblies and of parts (small, medium, large), the materials and semifabricates used, the precision class, etc.

The establishment of a single classification of machines with respect to construction-technological characteristics of their homogeneity will secure wide application in the construction of already existing machines of normalized or standardized parts, sub-assemblies, and aggregates. In this connection one part of them may become the object of specialized production within a given branch, while another part may become the object of specialized operations by many branches of the machine-building industry. For example in machine-building for construction and for highways the branch norms may include the cutters and teeth of earth-moving machines, gauge-cock containers for construction machines and other parts or sub-assemblies peculiar to the branch. Turbo-transformers and turbo-couplings for motors of various capacity, compressors for pneumatic control, panel cranes and differential valves, flange type reductors with a capacity of from 5 to 100 horse power and other products of this kind should be the objects of specialized operations of general machine-building.

A technical premise of major importance for the correct solution of the problem of technological homogeneity of output and of further development of specialization is the all-around expansion of efforts directed toward standardization and normalization of machines and of the elements of their design.

The socialist economic system provides an opportunity of working out and bringing into life the most perfect assortment of machines. However, even in the Soviet machine-building industry, in individual branches, there exists an excessive heterogeneity of the set of models of machines, particularly in agricultural machine-building. For example, it is doubtful whether the production of 35 types of ploughs, 20 models of cultivators and 20 models of seeding-machines serves a useful purpose. The set of models of these agricultural machines, even when the zone peculiarities of individual regions of our country are taken into account, can be diminished without detriment to agriculture. The importance of such a decrease of the set of models for advance of specialized production is obvious.

Thus the development of specialization requires first of all the working out, for the branches of the machine-building industry, of a rational set of models of machines corresponding to the needs of the economy, the formulation of a classification of machines and of parts according to characteristics of their construction-technological homogeneity, and a system of standards for machines, assemblies, sub-assemblies, and parts.

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The working out of the economic and technical problems of specialization and cooperation in machine-building permits the formulation of a scientific basis of planning these processes. Along with this the practice of planning specialization and cooperation raises a number of questions of method and of organization whose solution will leave its imprint upon the economic effectiveness of specialization. The success of planning specialization depends in many respects upon a correct combination of centralized and local planning on the basis of thorough coordination of the work of the corresponding planning and economic organs. For this son the workers of the enterprises who are well acquair with the possibilities of their enterprises and their proc tive apparatus must themselves take an active part in th planning of specialization. At the same time a rational tribution of the product mix among enterprises which w secure homogeneity of output requires centralization of economy-wide or regional scale.

The possibility of centralized planning of enterprises one of the important advantages of the socialist econom A correct organization of planning specialization and co eration all down the line (starting with the enterprise an ending with the Gosplan of the USSR) secures the scient nature and justification of our plans.

The following general scheme of the organization of th work presents itself: Starting from control figures, ent prises and economic councils work out their variants of perspective plans of production specialization. On the b of these plans, the Gosplan of the republic formulates p of development of specialization and cooperation on a re public-wide scale. Some economic councils are already putting into effect a certain coordination of their plans specialization and cooperation with adjacent economic c cils or those economic councils with whom they have es tablished intimate economic connections. It is clear tha Gosplans of the republics (in the first place the Gosplan the RSFSR, the Gosplan of the Ukrainian SSR, the Gospl of the Kazakh and Uzbek republics) must perform majo work in coordinating the plans of the economic councils Aided by its scientific research institutes, the Gosplan the USSR along with the Gosplans of the republics, the economic councils and the proper state committees elab rates the concrete perspective plans of development of cialization and cooperation on an economy-wide scale. tionwide plans of specialization and cooperation imply t most important measures of Union-wide signifiance whi reflect inter-republican productive connections.

The role of the local planning organs in solving urgen problems of specialization and cooperation has increas under the territorial system of industrial administratio Along with this it is necessary to work out certain gene methodological propositions which would aid in the corr solution of these problems. The Institute of Scientific Eco Research of the Gosplan of the USSR has made the first attempt to generalize the experience with the work unde the new conditions and it has formulated a methodology planning the development of specialization and coopera in machine building along regional lines. This was sent the economic councils and to the Gosplans of the republ The methodology contains instructions for working out plan of measures in the area of specialization and coop tion, it presents an illustrative program of studying the situation of specialization and cooperation in an econo region, as well as a number of reference materials whi can be used in working out the plan.

Of first importance for planning specialization and c operation is the method of balances, calculations of req ments and of production possibilities with respect to in vidual products, semi-fabricates, parts, and sub-assem both on an economy-wide scale as well as on a republic scale, zone scale, and the scale of economic-administr regions. The distribution of the program among enterp of Union-wide importance is made, taking into account requirements of the economy as a whole, on the basis corresponding Union-wide balances. The programs of enterprises called upon to serve the needs of particula economic regions or republics are formed on the basis republican, regional and oblast balances of the corresp

products. The working out of regional and republican
ances of semi-fabricates, parts and sub-assemblies is a
cessary condition of planning interregional and inter-
publican productive connections. Analysis of the balances
which are singled out all producers and consumers of
mi-fabricates, parts, and sub-assemblies permits a pro-
tion of the most rational productive relations among
erprises. In working out the projects of the plans for
59-1965 in the economic councils, the Gosplans of the re-
plics and a number of institutes of scientific research,
jor work of formulating the perspective balances of vari-
s semi-fabricates, parts, and sub-assemblies was done.
the present time there is on the agenda the task of mak-
these balance calculations more precise and, chiefly, to
engthen the economic justification of the balances and of
ther improving the productive relations.

n the perspective plans of development of the machine-
lding industry a particular place must be assigned to the
mation of new branches and forms of production. Techno-
ical development and the growth of the scale of produc-
n demand the formation of new specialized branches and
erations. The May 1958 Plenary Session of the Central
mmittee of the CPSU proposed a number of measures de-
gned to accelerate the development of chemical machine-
lding. The solution of this task will be aided by the crea-
n of specialized operations. In order to accelerate the
ocess of automatization of production it is necessary to
nstruct specialized enterprises producing model elements
automatization (conveyors, distributors, magazines, feed-
s, etc.), whose production is now scattered in non-special-
d enterprises. The specialized base for the production of
nveyors, automatic loading machines, roller tables, spe-
l trailers, chutes etc. should also be strengthened. The
cessity of developing specialized production of foundry
uipment has become urgent.

The economic expedience of establishing new specialized
erations can be determined in many instances on the basis
the experience of the industrially most highly developed
pitalist countries. For example, in the US there are many
ms that specialize in designing and producing model ele-
nts of automatization.

n capitalism the establishment of new branches is char-
terized by elemental spontaneity. The socialist state has
opportunity to establish and develop new branches of
oduction on a planned and economically most effective
sis. However, because of the departmental approach to
problems of specialization, in many instances the es-
lishment of new branches was delayed in our country,
ich has brought and continues to bring serious economic
s to our economy. For example, the economic purpose-
ness of establishing and developing specialized produc-
n of rigging for metal-cutting lathes is quite obvious.
wever, the formation of this specialized branch is being
ayed.

The process of establishing new specialized branches and
erations should be clearly reflected in perspective plans
pital investments, periods required for capacity opera-
n to be reached, production of output, etc.). The justifi-
ion of the purposefulness of establishing new specialized
erations must be based on the study of the need for a giv-
output in the economy as a whole and in the largest re-
ns and zones.

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An important lever of further development of specializa-
n and cooperation in machine building is the raising of
economic interest of enterprises in the strengthening of
ecialization and the expansion of cooperative relations.
nong problems of first importance should be included the problem of prices of semi-fabricates, parts and sub-assemblies, supplied through cooperation. The existing system of formation of prices of products supplied through cooperation does not create in the enterprises an economic interest in the development of cooperative relations. Enterprises frequently give up supplies through cooperation, though it may be effective from the viewpoint of the national economy.

In many industrial branches there are in effect single prices for the parts produced as spare parts. In concluding economic arrangements these prices are taken as the basis though they are significantly in excess of the production costs of parts in the chief enterprises. For example the production cost of a chain for a travel bicycle in the Kharkov Bicycle Plant amounts to 3.87 rubles while the price paid in cooperative supplying is 4.45 rubles, and 4.52 rubles when transportation expenses are included. The production cost of a bicycle bell is 2.65 rubles but its price inclusive of transportation costs is 3.65 rubles. As a result the Kharkov Bicycle Plant is over-paying about one million rubles per year. According to the calculations of the workers of the Kharkov Tractor Plant, when receiving via cooperation five types of fabricated parts for the DT-54 tractor, the cost of each tractor increases by 408 rubles. At the Ukhtomskii Plant in Lyubertsy the cost of producing a cross-piece for a harvester is 2.05 rubles while the wholesale price at which the plant buys this part via cooperation is 4.50 rubles; the cost of producing a gear for a tractor mower is 3.40 rubles while the wholesale price is 9.32 rubles; the cost of producing a sidepiece for a mower is one ruble while the wholesale price is 2 rubles. As a result some enterprises continue to manufacture various parts and sub-assemblies in their own plants instead of obtaining them from elsewhere via cooperation. Yet in the above examples cooperation is clearly expedient from the viewpoint of the national economy since production costs in the supplies-enterprises are much lower than in the chief consumer-enterprises.

The establishment of correct wholesale prices for products supplied via cooperation will strengthen the economic interest of the enterprises in increasing the level of specialization and in the development of productive cooperation. In determining wholesale prices of outputs that are to be supplied by a specialized enterprise to the chief enterprise it is necessary to start from the actual production costs taking into account outlays connected with packaging and storage as well as normal profitability.

At the same time it is necessary to increase the interest of enterprises in receiving orders via cooperation. For this purpose, in our opinion, it is expedient to leave a considerable portion of the profits earned in fulfilling cooperation orders at the disposal of the enterprise. We are not considering here branch-enterprises whose entire output goes into cooperation supplies. Expansion of cooperative relations leads to improvement of utilization of productive capacities and hence to increases of the technological-economic indicators of the operations of the enterprises. All of this will stimulate the development of specialization of enterprises and the expansion of cooperative relations among them.

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Such is the circle of problems which, in our opinion, are of first importance for the improvement of the practice of planning specialization. Considering the importance of these problems, work in this direction should be expanded by all means both in the institutes of scientific research and project-making of the industrial branches and directly in the enterprises and economic councils.

Z. Chukhanov:

The Moscow Coal Basin: Concerning the Effectiveness of its Development

A correct policy with regard to technology in the field of fuel production is of exceedingly high importance costwise to the national economy, as the quantity of fuel extracted considerably exceeds the combined volume of all other useful minerals employed in our country. The Soviet Union spends about 100 billion rubles a year on the recovery, transportation, and preparation of fuel. And therefore it is particularly important now to assure that the direction of new capital investments in the development of fuel production shall be economically efficient. "If," said Comrade N. S. Khrushchev in his speech of August 13, 1958 in Smolensk, "we were, in the future, to continue to satisfy our needs for the power industry, industry in general, and transportation by coal, which is expensive, while the advanced capitalist countries were developing their power production and industry on the basis of gas and petroleum, it would be difficult for us to catch up with them."

The plans specify exactly how much steel, fuel, power, and consumer goods of various kinds have to be provided for the country's needs. Economic analysis, however, should show what concrete methods should be used to produce steel; what types of fuel should be extracted; what means should be used to produce electrical power, etc. Such a calculation would make it possible to determine "a graph of efficiency" of production; that is, the dynamics of expanded reproduction (increase in output over a rather long period) due to net income of labor for society by each of the methods of production investigated for any given type of product, or for the recovery of any given type of fuel. Comparison of these "graphs of efficiency," that is, the dynamics of the practically realizable increase in output for 10-20 years, will provide the possibility for unique determination of which of the methods or procedures of production undergoing comparison is the most efficient at the given time. It is obvious that that method will be most economically efficient which makes it possible to attain the greatest stable annual growth of production under a given set of circumstances, and particularly with given initial capital investment and labor productivity. It is natural, of course, that the results of economic calculation will have a significant effect upon the planning of the development of the national economy.

Unfortunately, no generally accepted method of economic calculation along these lines has yet been developed. And, in a number of instances, this significantly complicates economic analysis and, in particular, evaluation of the efficiency of new technology. However, correct economic analysis for the solution of certain problems of practical importance is today entirely within the realm of possibility by means of a qualitative evaluation of the "graph of efficiency," and analysis of such economic indices as unit capital investment (simultaneous outlays of social labor per unit of product produced), cost of production determined by the direct expenses for production, and finally, labor productivity; or, in other words, the expenditure of living labor per unit of output. This method of economic analy is entirely applicable to the calculation of the efficiency of the output of certain types of fuel and, in particular, for the resolution of the question as to the efficiency of the development of the output of the coal of the Moscow region.

Without pausing to analyze the overall fuel balance of the country, and the extraordinarily profitable economic changes in the structure of the balance now under way in the direction of increasing the proportion of petroleu and natural gas, we note only that these changes do not a all mean that solid fuel will not play an exceedingly important role in the fuel balance of our country in the futu This pertains primarily to the balances of certain large and important regions such as Siberia, the Altai, etc., where solid fuel will play an enormous role not only quantitatively, but will in the economic sense also prove in many cases more profitable than petroleum and natur gas, particularly if the latter have to be transported for distances in excess of 500-1000 kilometers.

To illustrate the situation, one may call attention to t Kansko-Achinsky Basin where the cost of strip-mining coal is about 12-20 rubles per ton (in conventional term i.e., approximately equal to the cost of natural gas at th point of production. When gas is transported 600 kilome its cost climbs to 30-40 rubles per ton (in conventional culations), and unit capital investment exceeds 130 ruble per ton of conventional fuel per year.*

The all-round utilization of the coal of the Kansko-Ac sky Basin at the point of production, for example at larg electric power plants or industrial complexes based on power consumption for the production of household fuels (gas), electrical power, and chemical raw materials, is much more profitable than the utilization of natural gas transported 1200 or even 600-800 kilometers, the m so as so exceedingly important an index as total unit ca investment, which even today determines the rates of expansion of production to a considerable degree, would b lower under conditions of complex utilization of coal in Siberia than if petroleum and natural gas were employe

The role of various types of cheap, hard fuel must increase, particularly in connection with the increase in t total extraction of hard fuel. In this connection, solutio of the question of development of the Moscow area coal acquires high general significance. Maximum utilizatio of local resources of raw materials, particularly fuels, is an exceedingly important problem. However, this is an end unto itself, but merely a means of supplying indu and the national economy as a whole with cheap fuel. Le repeatedly emphasized the need to employ local fuel rerces to the degree that they are cheaper than hauled ls. In the development of our economy, the utilization local types of fuel such as peat and low-grade coals, yed an important positive role at one time. Particularly the time when transport was weakly developed and it was possible to provide transport for fuel, the utilization of al varieties thereof (even when more expensive than uled fuels) facilitated rapid economic development of country. The extraction of local varieties of fuel was o of great importance during the period of the great pa- otic war when transportation was overloaded with special ders. Unfortunately, in a number of cases, utilization of al fuel and local raw materials has become an end in it- f, and is regarded by many out of relation to its economic iciency. This was also furthered by the circumstance t, as we have already observed, we as yet lack a scientifi- ly-founded method of compariing the economic efficiency various types of production and recovery of fuel that uld yield unique solutions.

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* It should be noted that data on the economic indices f the recovery and transportation of natural gas are now undergoing revision by the State Planning Commission t render them more precise.

The opinion that the utilization of local fuels has to be reased by all possible means regardless of its economics s become so imbedded in the thinking of power and indus- al people that it was deemed deeply erroneous, for ex- ple, to discuss and even pose the question of the undesir- ility of increasing the output of Moscow coals. In 1956, N. Khitrin and the present author published, on the in- ructions of the Presidium of the Academy of Sciences of USSR, a pamphlet titled “Utilization of Fuel for Purposes Power Production,” and stated there bluntly and without uivocation, for the first time anywhere, that today the velopment of the coals of the Moscow region is undesir- le. Many economists spoke out against this viewpoint, d it was subjected to sharp criticism in a number of ticles. The Scientific and Engineering Council of the la Council of National Economy, which discussed this estion at a special meeting, reacted to this proposed solu- n of the problem with particular vehemence. However, opposing the concrete calculation advanced in our pam- let, those who took the opposite view unfortunately ad- nced no factual data, and limited themselves only to neral phraseology.

In order to familiarize the reader with opinions on this tter, and particularly those of economists of the Institute Economics of the USSR Academy of Sciences, we cite an tract from a speech at a general meeting of the Depart- ent of Economic, Philosophical, and Legal Sciences of tober 22, 1957, by Professor G. Bakulev:

“As a result of the increase in labor productivity in the st-war years by 30 per cent, Moscow coal is presently economical, or even cheaper, than imported Donets coal en burned within a radius of 200 kilometers.”

The degree to which this statement by G. Bakulev will thstand examination is indicated by data that he himself esents in his work titled “Fundamental Criteria and In- ces for Determining the Economic Efficiency of Capital vestments in Industry” (Institute of Economics of the SR Academy of Science, 1958), appearing a few months er this speech of his. These data show that the “proofs” the economic efficiency of Moscow coals at the disposal Comrade Bakulev permit the conclusion to be drawn that scow coals are completely uneconomical. As we shall monstrate below, the economic undesirability of the de- opment of production of Moscow coals to any significant gree whatever may be proved on the basis of all econom- indices. It should be emphasized that the index of unit pital investment is particularly characteristic in this spect, as it was 380 per cent of the average for the USSR for coal derived from mines, and about 300 per cent of investments in the Donbass.

Unfortunately, the position of Comrade Bakulev, which is in our opinion false, was reflected in an article by V. Somov, published in Problems of Economics, No. 12, 1957.

The degree to which the thesis of “minimum loading of transport,” which is not based upon economic analysis, dominates our planning, industrial, and research organizations, is indicated by the study titled “Utilization of the Coals of the Moscow Area,” published in September 1956 by the Central Mines Planning Institute. This generally valuable work draws correct conclusions on the economic disadvantages of Moscow coal, as these coals are considerably more expensive than hauled Donets coals, even at their point of production. At the same time, basing itself on the concept of the need to cut down on volume of haulage, the study draws the conclusion that it is desirable from the viewpoint of the national economy to pursue further the development of coal output in the Moscow area.

Taking into consideration the importance of the question under examination and the need for complete clarity in posing it, and in a correct motivation of a specific solution for it, let us first pause briefly to provide an engineering characterization of the Moscow area coals, both as a fuel and as a raw material for industry.

The Moscow lignites are extracted from mines, and the possibilities for efficient open cut mining are exceedingly limited, as the seams are usually quite thin (2-3 m. in all). Therefore, the volume of work required to uncover the seam is quite great, and this involves high initial capital investments. The quality and the composition of the Moscow coals differ from deposit to deposit, and the newer deposits in general provide coals of lower quality. In accordance with data provided by the All-Union Heat Engineering Institute, the composition of Moscow coal may be described by the following average indices: moisture content, 33 per cent; ash content of dry coal, approximately 35 per cent; effective heat capacity, of the order of 2.2-2.5 thousand large calories per kilogram; and a sulfur content of approximately 4.5 per cent, measured for dried fuel. These data show that Moscow coal is an exceedingly low quality fuel, containing approximately 55 per cent of wastes in the form of ash and water. Soviet power people have found technical means for utilizing Moscow fuel at electric power plants. But both the capital investments and the current expenses involved are considerably higher than when Donets coal is utilized. The actual consumption of natural fuel at fuel-powered electric power stations using Moscow coal, per kilowatt hour of energy produced, is approximately 2.5-2.8 times as great as in the furnaces of power plants where Donets coal is employed. This results in the need to increase the delivery of fuel, to increase expenditures upon ash removal, and so forth.

In accordance with the data of the work by the Central Mines Planning Institute, adduced in the table below, the cost of electric power generated at the point of production of the fuel by a 600 kilowatt power plant using Moscow coal, is 60 per cent higher, all other conditions being equal, than that of an analogous electric power plant using Donets coal.* Such a power plant using Moscow coal yields a net loss of 800 million rubles in five years. This sum is sufficient to build a new fuel-powered electric power plant of the same power to use Donets coals.

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* In the vicinity of Moscow, the cost of electric power would be 20-60 per cent higher than when Donets coal is used, depending upon the grade of fuel and the station from which it is shipped.

Factors of outlay	Cost of one kwh electricity (kopeks)	
	Donets coal	Moscow coal
Fuel	3.860	7.710
Amortization and repairs	1.141	1.168
Power for plants' own needs	0.808	1.025
Wages and bonuses	0.330	0.337
Other expenditures	0.427	0.435
Total	6.566	10.675

It should be noted that today the ash content of the Moscow coal being produced is rising because new deposits are being mined, and that this is further reducing the economic indices thereof. Thus, when the ash content of the fuel employed rises from 24 to 31 per cent, the cost of the electric power and the consumption of the fuel rises approximately 20 per cent. Under these conditions, the steam output of the boilers drops from 230 to 185 tons per hour. The considerable content of poisonous sulfur trioxide in the flue gases formed on combustion of Moscow coals (double or greater than that produced by Donets coals), also does enormous damage to the national economy. The installation of systems for sulfur removal from the flue gases increases capital investments and operating expenses by about 20-30 per cent per power plant. The utilization of lump Moscow coal is even less advantageous than that of pulverized coal, as under these conditions, particularly at small plants, the losses of fuel increase considerably, and the efficiencies of boiler installations drop from 83-90 per cent to 60-70 per cent even when sorting of the coal is resorted to.

Industrial utilization of the Moscow coals is, in general, very limited because of their low quality. While this has been mastered for certain conditions as, for example, gasification in generators, economically there can be no question that it is presently unprofitable. The undesirability of the use of Moscow coals for technical purposes is clearly illustrated by the planned and actual operating data of the Shchekinsk Gas Works. The energy efficiency of this plant (a complex), in accordance with the projected plans, is approximately 45 per cent, but actually it is presently under 40 per cent. Or, in other words, this complex is able to make useful employment of less than one-half of the heat capacity of an exceptionally expensive coal, and this leads to a high cost of production. The complexity of this technological process, and the bulkiness of the equipment employed therein, involve very high unit capital investments.

It is obvious from all the foregoing that consumers, including even electric power plants located at the point of output of Moscow coals, find the utilization thereof always inefficient and considerably less desirable than that of Donets coals. The utilization of Moscow coals at small installations should, in general, be considered absolutely impermissible under normal circumstances. In connection with the fact that the amount of natural Moscow coal needed to attain a given result is 2.5-3 times as great as that of Donets coal, the total cost of transport per ton of conventional fuel in a transport radius of about 200 km. will be approximately the same as the cost for the transportation of Donets fuel for a distance of even as much as 900-1200 km.

If we take into consideration the large volume of loading and unloading operations, and also the large amount of coal employed by locomotives to haul Moscow coal, it is not difficult to demonstrate that economies attained in transportation when Moscow coal is employed, are comparative small. Consequently, the calculations on this score by Comrade Somov are simply erroneous: "The transportati of Donets coal to the center of the country," he writes, "is approximately 6 times as expensive as the transportation of Moscow coal to the consumer."*

In reality, the use of Moscow coal (calculated as conver tional fuel) saves only 30-50 per cent of transport costs o the average. Further, it is necessary to note that a consid able portion of the statistical data adduced in the article b V. Somov we have mentioned are, unfortunately, incorrect Thus, for example, he writes that transport expenditures for Moscow coal come to 5 rubles 43 kopeks, while the data of the Central Mine Planning Institute, which should be deemed the more accurate, show it to be 20 rubles per ton of conventional fuel.†

We shall not go into further detailed analysis of the article by V. Somov, which manifested a one-sided approa to the solution of the question as to the desirability of development of production of Moscow coal.

We note that the article by V. Somov sheds no light wha ever on one of the most important of economic indices, ur capital investment in the extraction and utilization of Mos and Donets coals. Let us examine this index, which is so exceptionally valuable for determining the rates of develo ment of the national economy, from the viewpoint of the desirability of expansion of the output of the Moscow coal

An increase in annual coal output per ton of conventiona fuel always involves a given unit expenditure of social lab in the form of initial capital investment. The greater this magnitude, the smaller, quite obviously, are the possibili for annual increase in total fuel production, given a defini level of available resources for capital investment. In accordance with the data of the State Planning Commissio of the USSR, unit capital investments in the new areas of the Moscow region exceed 1,000 rubles, or, in other word are 3-4 times as great as those of the Donbass, and 6-15 times as great as for natural gas and for the strip mining of coal in the Kansko-Achinsky basin of Siberia. This rat corresponds approximately to the data advanced in the wo of Professor Bakulev, which we have cited. The significa of this index to the national economy will become evident if we examine how to make specific employment of it in planning the financing of the development of coal recovery in our country. If, for example, we evaluate the increase in annual consumption of solid fuel in the central Europea portion of the USSR at 10 million tons of conventional fuel it appears that more than 10 billion rubles of capital investment is needed per year for extraction alone, in term of Moscow coals, without consideration even of the major related investments in transportation and increased capit investments on the part of the consumer. If the total required increase in coal output were to come from the coa of the Greater Donbass, the initial investments would be only 3 billion rubles. The annual savings in capital inves ment for coal output would thus exceed 6 billion rubles. Even if we take into consideration the need for expenditur in the construction of a new, large capacity railroad from the Donbass, and those to equip it with rolling stock, the savings in capital investment alone would still exceed 6 billion rubles; and this would give us a new railroad, mal

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* Problems of Economics, No. 12, 1957, p. 33.

† The data on this subject adduced in the work of G. Bak to which we have referred, are comparable to the data of the Central Mine Planning Institute.

ssible elimination of a bottleneck and creation of condi-
ns for an upsurge in the economies of new areas. Fur-
rmore, the annual savings in capital investment, if solid
l were replaced by natural gas, would, in this case, ex-
ed 7 billion rubles.

t is quite obvious that the increase in expensive varieties
local fuel that has taken place in recent years, and has
olved considerable capital investment, was a serious
scalculation. Moreover, the concept of the need to re-
ce fuel haulage, independent of overall considerations of
extraction and consumption of the fuel, is erroneous in
nciple and has doubtless interfered with the development
construction of new railways.*

Considerable means in the form of past labor have
ne not to the construction of new railways, which have a
rmanent value for the country as a whole, but, to cite an
ample, to the development of the Moscow coal area and
creation of other similar industries having a temporary
al and, as a matter of fact, rather low value. Yet the
nual expenditures were quite considerable, and the re-
ns thereon needed for expanded reproduction, proved
significant and, as a rule, did not begin to come in until
ong period of time had passed.

It must be observed that another serious shortcoming in
development of theoretical questions of political econo-
, in addition to the absence of a theory of technical and
onomical analysis, is specifically that industrial invest-
ents such as mines, diggings, and so forth, which have a
mporary and limited value, are included in the same eco-
mic category as others that have a lasting general value,
ch as railways and highways, canals, and so forth. This,
course, was also responsible to some degree for the
-advised, impractical development of local fuel resources,
d the inefficient development of other expensive mineral
sources requiring high capital investments. This was also
e to the low rates of development of railway and other
pes of transport so very much needed by the country. The
velopment of the output of Moscow coal led, to be specif-
to an undesirable outlay of about 5 billion rubles in
pital investment in recent years.

As we see, Moscow coal is an extraordinarily unprofitable
el when measured in terms of one of the most important
onomic indices, the initial unit capital investment, i.e.,
e expenditure of social labor required to produce one ton
coal (in conventional calculation) per year. However, it
possible that this index may, to some degree, be out-
ighed by other, more efficient economic or other indices.
e other economic indices that are of importance, in addi-
n to initial capital investment, are direct expenditures
on production determining the cost of the fuel produced
conventional calculation).

Let us examine the final data on costs, labor productiv-
, and unit capital investment for 1954 for coal fuels
m various deposits. The cost of Moscow coal at the site
production in 1951 was 151 rubles per ton of conventional
l. However, if the production in the new fields be in-
ded, data of the Central Mine Planning Institute show
t it comes to approximately 190 rubles per ton of con-
tional fuel. For the Donbass, the average cost of one ton
conventional fuel in 1954 was approximately 101 rubles
rubles as far as anthracite is concerned). With con-
eration of the cost of transportation, in accordance with
same data of the Central Mine Planning Institute, as
rected by the Planning Department of the former Min-
ry of the Coal Industry of the USSR, the cost of one ton of conventional fuel in Moscow is shown to be about 200 rubles for Moscow coals hauled 200 kilometers; that of anthracite (from Debaltsevo) to be 105 rubles; and that of gas coal (Krasnoarmeiskaya Station) to be 145 rubles. From these data, which show general agreement with those adduced by G. Bakulev, it follows that the cost of Moscow coal is 30-80 per cent higher than that of Donets coals, even in the vicinity of Moscow.

Thus if we continue our analysis of the question of the economic significance of further development of the Moscow coal area to the national economy on the assumption of an annual increase in coal output by 10 million tons of conventional fuel, we arrive at the conclusion that utilization of these coals results in a loss of not less than half a billion rubles per year on operating expenses for extraction and on transport alone. Even now, the government loses about a billion rubles per year as a result of the operation of the Moscow coal area. Consequently, from the point of view of economics, development of the output of Moscow coal in recent years has been wrong, and has cost the government about 10 billion rubles of outright loss. These funds could obviously have been used effectively to develop the national economy, including an increase in the output of more profitable types of fuel. In analyzing the question of the development of the output of one or another type of fuel, an important economic index, in addition to unit capital investment and cost of output, is the productivity of living labor. Without pausing here to consider this index in detail, we note only that, in accordance with data adduced in the cited work by Professor Bakulev, and in the summary data of the USSR State Planning Commission, the expenditure of living labor per ton of conventional fuel is about 50 per cent higher in the production of Moscow coal than in the recovery of Donets coal. The desirability of further development of Moscow coal output is not infrequently advocated on the grounds of the need for a proper geographic distribution of the natural resources being exploited. However, it is not at all difficult to demonstrate the complete lack of foundation for this assertion as well. For, by developing the coals of Moscow, we are compelled to make ever-greater use of low-quality deposits in unfavorable geological conditions, and this involves a sharp increase in capital investment in the cost of the fuel extracted. Thus, further increase of Moscow coal output, or even its maintenance at the present level by new construction or, to be more exact, by large new capital investments in the Moscow basin, cannot be regarded as having any foundation whatever.

The analysis above shows that to develop, or even to sustain the output of fuel at its present level in the Moscow coal area and at other similar fuel deposits as, for example, those of the high-earth-content brown coals around the Dnieper River, the coals of Akhaltsikhi, lump peat, etc., is today undesirable. The question as to whether these types of fuel should continue to be produced at the mines now existing in the Moscow area is somewhat more complex. It may be that extraction of Moscow and similar coal elsewhere should be stopped in very short order in accordance with a specific plan, as this production is unprofitable and, as we have explained, causes large economic losses. However, would a cessation of the production of such coal serve to increase the rates of expanded reproduction in the country at large, or would it inhibit them? The indices we have examined above are inadequate to provide an exact answer to this question. In order to solve it, it is necessary to plot a "graph of efficiency" of the output of specific types of fuel, and on the basis thereof, to determine which of these types should be recovered today.

As already noted, today no generally accepted method of

The total length of railways in our country in the past
years has increased by only 76 per cent.

precise economic calculation and quantitative erection of "graphs of efficiency" exist, and it is therefore incumbent upon us, in the given case, to perform only a qualitative analysis of the "graph of efficiency" of the extraction of Moscow coal. Let us assume that the annual output of Moscow coal is reduced by 10 million tons of conventional fuel. Does this mean that this will yield an annual economy of about half a billion rubles per year? Of course not. After all, to compensate for the loss of these 10 million tons of conventional fuel to the national economy, we will have to proceed immediately to invest about 2.5-3 billion rubles in the Donbass, not counting the expenditures involved in transferring miners, and those involved in mothballing the Moscow mines. Consequently, from the viewpoint of the time required to build new mines in the Donbass, not less than 8-10 years are required to cover all the added expenses to the economy resulting from cessation of production of Moscow coal at mines now functioning in the Moscow area. Thus, if we consider the income that the Government budget should receive from all enterprises, it must be acknowledged that the step under discussion would not accelerate the rates of development of the national economy.

From this analysis of qualitative indices it is evident that a sharp drop in the production of coal at Moscow, and substitution of Donets coal for it, would lead to an even greater economic loss than continued production. This is a most important conclusion. The Moscow mines represent considerable capital investment, and by stopping the production of Moscow coal through mothballing the mines, we would lose a considerable amount of embodied labor. In addition we would be compelled to invest embodied labor in the development of the Donets Basin, before we begin to receive returns in the form of the cheaper Donets coals. The losses from unutilized and newly-invested emobdied labor will be greater than the losses from production from expensive Moscow coal.

The picture would be somewhat more favorable if some replacement of Moscow coal (on the assumption of complete satisfaction of consumer demand) could be effected immediately, not by increasing the output of Donets coal, but by the production of an even cheaper fuel requiring less capital investment, to wit, petroleum or natural gas. However, in this case it is essential that the total capital investment, including capital investment in transportation, not be large and, in any case, not exceed 200 rubles (including the cost of prospecting and other related major investments) per ton of conventional fuel per year. In terms of natural gas, this means that the distance it is transported must not exceed 800-1000 kilometers.

Thus, at the present time, no substantial reduction in the production of Moscow coal by mothballing existing mines should be engaged in (except for extraordinarily unprofitable small mines). New large capital investments in the Moscow Basin should be made only in individual cases, and by way of exception.

In conclusion, let us deal briefly with the possibility of recovering Moscow coal by underground gasification, to which Comrade Somov referred in his article. And also let us deal with new methods and specific means of increasing the efficiency of utilization of the Moscow coals now being produced, with the object of reducing the loss to the economy from their utilization.

The Moscow Underground Coal Gasification Station has been in use for more than fifteen years. During this period it has produced some billions of cubic meters of gas of 700-800 calorie heat capacity. It has been stated in the Industrial and Economic Gazette for July 11, 1956, that this Moscow underground coal gasification station "has long since been converted from an experimental to an industrial enterprise. It today operates on the basis of cost ac counting, and is a profitable undertaking." Approximatel the same characterization of the situation with regard to underground gasification of Moscow coal is provided in a monograph by G. Bakulev titled "An Economic Analysis of Underground Coal Gasification," published in 1957.

What is the actual situation as far as this underground coal gasification station is concerned? What is its outpu And what are the indices characterizing its work in term of power and of engineering economics? Each year this station produces about 400 million cubic meters of very low quality gas, i.e., it produces about 40,000 tons of con ventional fuel a year. To satisfy its own requirements fo gas and electricity, this station annually consumes about 20,000 tons of conventional fuel. Consequently, the mark production in the form of fuel for the national economy i about 20,000 tons (in conventional figures). At the same time, it consumes approximately 150,000 tons of industri coal reserves (in conventional fuel) per year. Or, in othe words, it makes useful employment of only 14 per cent of the coal as against 60 per cent of it when it is extracte in mines.

Nor is it possible to ignore the fact that this station en ploys over 500 people, and the productivity of labor is ap proximately 40 tons of conventional fuel per person, as against 190 tons in extraction from mines. The cost of o ton of conventional fuel (in the form of gas transmitted t the consumer), is over 600 rubles, as against 200 rubles in the case of mined coal. The unit capital investment pe ton of conventional fuel per year with underground gasifi tion comes to 4,000 rubles at the Moscow Station, which is 4-6 times as high as the investment in coal that is dug from mines.

Even when compared to mined recovery of Moscow coa the underground gasification station actually costs the country about 10 million rubles a year of loss.

These are the economic and energy indices of the oper tion of the Moscow underground coal gasification station. At the new Shatskaya Station, the construction of which i now being completed, these indices will be approximatel the same as at the Moscow Station. The present method of underground gasification will not yield any significant improvement of economic indices. Therefore in the year immediately ahead, underground gasification cannot be employed as a practical measure of utilizing Moscow coa And the investment therein of new sums of money for pu poses of industrial exploitation of Moscow coal is undesi

Thus the national economy, and primarily the large po plants, will be required, for a fairly long time to come, use Moscow coal as fuel by operation of existing mines. The question arises as to how to improve the efficiency utilization of Moscow coal at power plants, so as to redu to a minimum the loss caused to the government. A detailed analysis shows convincingly that the only practica measure that will make it possible to solve the problem posed is multiple utilization of Moscow coal for power a as a raw material. The use of this method will make it possible to obtain high calorie gas and liquid resins (a valuable raw material for the chemical industry) from th organic portion of the fuel, and to extract the valuable components from the mineral ash, and by making the nec sary additions thereto, to produce building materials tha will be relatively cheap in mass production; such materi as slag felt, slag block, and hydraulic binders (cement substitutes). This multiple utilization of fuel would, with intimate typing together of the processes of power production and raw material usage, make it possible to impr the economics of utilization of a number of types of fuel and, particular, to better the economics of utilization of Moscow

Maksimov and M. Marakhanov:

he All-Union Census of Population in 1959

he Cabinet of the USSR has examined questions having
lo with the scope and the organization of the forthcoming
-Union Census, and has resolved that the census will be
ried out as of January 15, 1959. The census will record
the existing population, including people temporarily
ng in a given area, and those temporarily absent.

he forthcoming census is a matter of considerable na-
al importance. Its object is to obtain precise data on
number and composition of the population in terms of
, age, family status, nationality and native language,
el of education, on the distribution of the population by
upation, branches of the national economy, and social
ups. The results of the census will show how the popula-
is distributed across the country's territory, and will
vide a much-needed description of the composition of
population by republics, krais, oblasts, national okrugs,
ns, raions, and categories of urban settlement (urban
rural localities). These results will reflect the out-
nding triumphs of the Soviet people in the development
ts economy, culture, and science, and in the improve-
nt of the living standards of the working people attained
er the leadership of the Communist Party during the
nty years since the last census.

he Soviet people is the decisive productive force and
ator of the social wealth of the USSR, its owner, and the
sumer of its material and cultural goods and services.
e entire planned development of Soviet socialist pro-
tion and culture, are directed to maximum satisfaction
he constantly rising material and cultural needs of the
king people. This is why the Soviet government has to
e precise data on the number, composition, and distribu-
of the population of our country.

n the overall system of statistical indices characterizing
development of the national economy and the culture of
country, indices having to do with the numbers of the
ulation and its composition occupy a leading place.
tually every branch of the administrative, economic, and
tural activity of the Soviet government is in need of data
to numbers of population, and its social, national, occu-
ional, and cultural characteristics. Without this it is
possible to assure correct planning of the development
production and elevation of the material and cultural
l-being of the people. We know that the government
ns for the national economy, both for the country as a
le and for republics, krais, oblasts, or administrative
nomic districts, are based to a greater or lesser degree
population data. Only precise statistical figures of the
ber, composition and distribution of the population in
country can make possible a correct and scientifically-
nded planning of the further development of the individ-
branches of the national economy and socialist ex-
ded reproduction as a whole.

ata on the composition and distribution of the population
very much needed for fulfillment of the undertakings
ed by the Twentieth Congress of the Communist Party
he Soviet Union, to assure the most rational distribution
he labor resources among the branches of the national
economy and the districts of the country, and proper utilization thereof.

Data on the number of the population and its composition are needed by the central, the republic, and the local organs of governmental and economic administration, planning agencies, and scientific institutions, for solution of the problem of further development of the national economy, for improvement of socialist planning, for improvement of material position and cultural services to the population, for the needs of proper division of the country territorially for administrative purposes, etc.

Data on the population provide the basis for elaboration of problems of rational distribution and utilization of labor resources, for investigations in the field of the composition of the working class and intellectuals by occupation, for the degree to which the population is gainfully occupied, for changes in the social condition of the population, and for the elaboration of many other important problems.

The forthcoming census will show how enormous are the attainments of the peoples of our country in the building of communism in the forty-one years of Soviet power.

Censuses in bourgeois lands differ fundamentally from censuses in the USSR and in other socialist countries.

A distinguishing characteristic of censuses in capitalist countries is the attempt to gloss over the class structure of society. The objects of the censuses do not include an index as to situation in gainful occupation that would reveal adherence to one or another social class. Bourgeois statisticians make every effort to conceal the relationships among classes and differences among classes revealing the irreconcilable contradictions in capitalist society. Thus one and the same group of "property holders," or "self-employed," will include entrepreneurs exploiting wage laborers, and small artisans working with the aid of their own families. The heading of "peasants" will include employing peasants, independent peasants, and dependent peasants. In elaborating the results of census data, a group of "entrepreneurs" includes both millionaires and small craftsmen. Contrary to bourgeois censuses, all the censuses of the population in the Soviet Union have posed, and do now pose, the question of social group composition of the population; or, in other words, of class structure.

In bourgeois censuses (as in the USA, for example), the gainful occupation index is vastly distorted, and significantly understates the true number of unemployed. In order to do this, the census lists the occupation to which one regards oneself as belonging, and not the manner in which one is occupied. The census data show hundreds of thousands, and millions of unemployed as being employed. Not classified as unemployed in censuses are millions of young people who are seeking, but have not found, work: The reason for this type of classification being that they have never yet worked for wages.

Censuses in bourgeois countries also distort the index for national composition of the population, and the question of nationality is often replaced by one of citizenship, language, or religion. This results in understatement of the size of national minorities. In the United States, question of skin color or race substitutes for one of nationality.

Censuses in the USSR and other socialist countries pose the question of nationality in an entirely different fashion. Each individual interviewed indicates the nationality to which he believes himself to belong. The data of the census as to national composition serve the object of further development of the economy and the flourishing of the culture of all nationalities and peoples inhabiting our country.

The USSR censuses differ from censuses in capitalist countries also by their superior organization, by mass participation in census taking, by the interest that the population itself has in conducting the census, and by the higher accuracy of the data. As distinct from censuses in capitalist countries in which the questionnaire method of self-entry predominates, in the USSR and other socialist countries, the census is conducted by the census takers questioning the entire population; and this provides high accuracy of the data obtained. Toward this same object, a thoroughgoing and complete check is taken, and a check blank and questionnaire as to the manner in which the census was conducted is utilized. The censuses, and the elaboration of their material, also take less time in our country than in capitalist countries.

The first general census in the Soviet Union was taken as of the situation obtaining on August 28, 1920, under conditions of a continuing civil war, struggle against the interventionists, and economic breakdown. An agricultural census and industrial census took place at the same time. V. I. Lenin ascribed very great significance to these censuses, and noted that the data thus obtained would provide the foundation for Soviet construction. In accordance with the census data, and calculated data for areas of military operations, the total population in 1920 was 134,200,000 people. The census data were widely employed for compilation of the unified government plan for economic and cultural upbuilding.

The second general (All-Union) census was conducted in 1926, as of the status of December 17th. At this time, the restoration of the national economy of the USSR had been essentially completed. As a result of successful economic building, a considerable improvement had occurred in the material position of the population, and this resulted in a reduction in the death rate and an increase in the birth rate. The census population proved to be 147 million people, of which 26.3 million was urban, and 120.7 million was rural. At this time capitalist elements still played a significant role in the national economy. It was found that there were 845,000 private entrepreneurs employing workers. The proportion played by private capital in industry was 14 per cent in 1926-1927. Small peasant households predominated in agriculture. In 1926, the collective farms comprised only 1 per cent of the peasant households, and there were few state farms. In 1927, kulak households provided 130 million poods of market grain, while collective farms and state farms provided only 35 million poods. Private trade accounted for 34.6 per cent of retail trade in 1927. In accordance with the census data of 1926, there were over a million unemployed in the USSR. The census data were widely utilized in developing a unified government plan for the further development of the national economy; the First Five Year Plan.

The third All-Union census of the population was conducted as of the status of January 17, 1939. In the twelve years that had elapsed since the previous census, the peoples of the Soviet Union had recorded tremendous victories in the upbuilding of socialism. The technical reconstruction of the entire national economy had been carried out, and our country had been transformed from one economicall backward, to a powerful industrial and collective farm state. The socialist method of production had come to p dominate both in town and country. The exploiting class had been eliminated. A genuine cultural revolution had been carried out. In all branches of the national econom there had appeared large numbers of specialists, and th national republics had developed corps of workers and intellectuals of their own nationalities. These changes found sharp reflection in the census data. The total popu tion of the USSR increased from 147 to 170.6 million people from 1926 to 1939, or 15.9 per cent.*

During this period the population of the capitalist cou tries of Europe, the United States, and Japan, increased by 10.4 per cent. Thus, the average rate of population i crease in the USSR was 50 per cent greater than in the capitalist countries. The urban population of the USSR increased from 26.3 to 56.1 million persons from 1926 1939, or in other words, more than doubled, and constitu an index of the rapid industrialization of the country. No such increase in urban population had ever taken place any country. During the period of its most rapid econon development, the United States had required thirty year to double its urban population; and England and France required 60-70 years.

Fundamental changes occurred in the class compositi of the population. In 1939, 49.7 per cent of the populatio belonged to the social grouping of workers and office workers; and 46.9 per cent were collective farmers and cooperative artisans, while 2.6 per cent were individual peasants and artisans not belonging to cooperatives. On 0.04 per cent of the population belonged to elements not gainfully employed. These data testify to the undivided sway of socialism in all branches of the national econom

Complete utilization of census materials for planning improvements of government administration, and furthe elevation of the material well-being of the people prove impossible. This was because of the treaty-breaking at of Hitlerite Germany against the USSR. During the war, country suffered enormous losses in wealth and human beings. During the post-war period, the Soviet Union restored the national economy in a short period of time, a proceeded to advance far ahead of its pre-war situation thus demonstrating the tremendous advantages of the socialist social order over the capitalist. All this marked changed the composition and distribution of the populati Therefore, the need for a new census has now become a

Between censuses, changes in the number and compos tion of the population are determined on the basis of cu estimates. The estimate of natural population movemen (births and deaths) is carried out by the ZAGS (Registra tion Bureaus). Estimates of mechanical motion of the p lation (arrival and departure of citizens at and from va centers of population), is conducted in the cities, in the house registers; and in rural areas, in lists of househol and the records of the village Soviets. In addition, data voters in elections to the Soviets, and resettlement cre tials, are employed in estimates of the population. All these data provide the total number of the population by culation.

However, these current estimates do not provide all required complete and accurate data on the compositio of the population. Such important information as family status, level of education, nationality, native tongue, detailed information on place of employment, and occupat can be obtained only by means of a census. Censuses a

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* Within the boundaries of September 17, 1939.

cessary also to obtain accurate information on number of
pulation. The number and the composition of the popula-
on undergo constant change. In 1957, for example, the
pulation of our country was increasing by about 10,000
ople a day. The population is constantly moving from one
sidence to another, and people change their jobs for vari-
s reasons. Therefore, current estimates of the popula-
on may prove to be inaccurate and incomplete. Data from
e current estimates of the total population require peri-
lic correction, and have to be rendered more precise.
nly a census performed in accordance with a unified pro-
am, and a single plan, and based on questioning the popu-
tion of the entire period at a given critical moment, is
pable of establishing the exact number and composition
the population.

Almost twenty years have elapsed since the last census
1939. During this period the Soviet Union has undergone
w colossal changes, and has recorded outstanding vic-
ries in the building of communism.

The volume of industrial production in the USSR in 1957
as 3.9 times as large as in 1940; and 33 times as large
that in pre-revolutionary 1913. At the same time, pro-
ction of the means of production grew to 4.8 times the
vel of 1940; and to 74 times the level of 1913; while pro-
ction of the machinery manufacturing and metal process-
g industries increased respectively by 6 and by over 200
mes. The volume of production of consumer goods ex-
eded that of 1913 by thirteen-fold in 1957.

The Soviet people have attained important successes in
e development of socialist agriculture. In place of the
,800,000 small peasant households in 1927, the USSR to-
y counts over 78,000 collective farms and 5,800 state
rms. Soviet agriculture in the USSR disposes of a power-
l material and technical foundation. In the beginning of
958, there were approximately 1,700,000 tractors (calcu-
ted as 15 horsepower), over 450,000 grain combines,
0,000 trucks, and millions of other complex agricultural
achines. In the last four years, 75,400,000,000 rubles
as invested in construction, acquisition of machines and
uipment, or 10 billion rubles more than in the second,
ird, fourth, and three years of the Fifth Five Year Plan
mbined. In 1954-56, 36 million hectares of virgin and
le lands were brought under the plow, and from these the
SSR obtained more than one billion poods of marketable
ain in 1957. All this made for a considerable increase
the production of agricultural produce.

The working people of agriculture in the USSR are strug-
ing so as to attain the level of the United States in the
xt few years in the production of milk, meat, and butter
r head of population.

Many measures are being realized in the Soviet Union to
prove working conditions and raise the living standard
the people.

The real wage of workers in industry and construction
s increased almost fivefold since the pre-revolutionary
riod, and the income of the working peasantry, sixfold.
easures have been taken to assure a fundamental improve-
ent in the housing conditions of the working people.

Elevation of the living standards of our people has re-
lted in a marked reduction in the death rate, and a high
rth level; in an increase in natural increase, and in the
an of life. During the past decade, the annual growth of
pulation in the USSR has exceeded 3 million people. In
957, it was about 10,000 people per day on the average.
e know that the population of the USSR has increased by
,300,000 people during the years of the Fifth Five Year Plan.
his increase exceeds the total population of Canada, Nor-
ay, Sweden, and Finland, taken together. In 1957, the
death rate was lower by a factor of 2.4 than in 1940; and was only one-quarter of what it had been in 1913. Infant mortality had dropped even further; by three-fourths since 1940, and by five-sixths since 1913. Today, the death rate of the population of the USSR is considerably lower than that in the United States, in England, France, or Western Germany; and the birth rate of the USSR exceeds that of those countries. The natural increase in the Soviet population is greater than that of the chief capitalist countries. Thus, in 1956, the natural increase in population in the USSR was 17.5 per thousand; in the United States, 15.5; in France, 5.9; in the Federated Republic of Germany, 5.3; and in England, 4.4. The average life expectancy of the population of the USSR has more than doubled as compared to pre-revolutionary Russia.

As a result of the enormous victories obtained in the development of the national economy, and in culture, as well as in the living standard of the working people, what is occurring is not only a numerical growth in population, but a qualitative change in the composition. By bringing universal secondary education to realization, as well as an increase in the number of students in higher and secondary specialized institutions, and by a large scale development of trade schooling, a sharp rise in the cultural level of the Soviet people has been attained.

Major changes have occurred in the territorial distribution of the people. An enormous work of construction is proceeding in the USSR. Huge industrial and cultural centers have been built. Hundreds of thousands of Soviet people have arrived at the new construction sites of Siberia, the Far East, and Kazakhstan, and in the areas in which virgin and idle lands are being placed under the plow. From 1940 to 1956, the population of towns and urban settlements has increased from 60,600,000 to 87,000,000 people. From 1939 to 1957, 417 cities and towns, and 1,188 urban settlements have come into being in the Soviet Union.

The scope of the All-Union Census of 1959 has been determined by a census list approved by the USSR Cabinet; this list consisting of the following fifteen questions: 1) relation to head of family (wife, husband, son, daughter, mother, relative, etc.); 2) for persons for whom this is the permanent residence but who are temporarily absent write "Temporarily absent," and indicate for how long a period; 3) For temporary residence indicate "A", permanent residence and "B", how long absent from permanent residence; 4) sex (male, female); 5) age, given in months for children under one year; 6) presently married or not; 7) nationality; 8) native language; 9) citizen of what country; 10) education, higher, incomplete higher, secondary specialized, secondary academic, seven-year elementary; for persons nine years of age and older who do not have elementary education, indicate whether they read and write, or only read, and if so, in what language, or whether they are completely illiterate; 11) for pupils and students; state full name of institution (institute, technicum, school, courses) at which they are studying; 12) place of occupation (name of establishment, collective farm or office), or whether self-employed; 13) occupation at this place of employment (title or work performed); 14) if there is no occupation providing a source of income, indicate what other source the means of existence are acquired from: 15) social grouping (worker, office worker, collective farmer, handicraftsman belonging to a cooperative, individual peasant, individual handicraftsman, member of a free profession, clergy or other religious employee).

The scope and the major methodological rules of the forthcoming census are similar in many respects to the scope of the 1939 census. This is explained by the effort to attain data comparable to that of the last census. The major differences between the scope of the 1959 census and that of the previous census lie primarily in the fact that the question of literacy, which is no longer of independent significance as it was in the previous census, is now combined with the question of level of education. On the other hand, the question of level of education and study on the part of Soviet citizens has been expanded. The question of level of education now envisages registration of individual instances of illiteracy of persons who failed to obtain education during the pre-revolutionary period.

As in 1939, there was no need to include a question about unemployment which did appear in the questionnaire for 1926; as unemployment in our country was done away with completely as long ago as 1930.

One of the most important undertakings of the forthcoming census is to obtain complete and detailed data on the number and distribution of resources of labor by branches of the national economy, fields of production and occupations, for each republic and each economic administrative region of the country. This is necessary in order to find possibilities for involving additional supplies of labor in social production. Toward this end the 1959 list of questions involves three instead of two questions, as was the case in the earlier census, and the question as to place of work is placed ahead of that of occupation at that place of work. This sequence would appear to be a more logical one. The third question as to other sources of income, has become an independent one. It is needed to determine the number of people not engaged in the national economy; pensioners, students receiving stipends, and others living at the expense of the government, of cooperative and social organizations, relatives and individual citizens.

The last, fifteenth question in the list for the forthcoming census differs from that of the census of 1939, in that it does not envisage a group of "non-working elements." This is explained by the fact that the number of such persons in the USSR was negligible even at the time of the last census.

The list of questions for the census was developed by the Central Statistical Administration of the USSR, and was discussed with the participation of a broad body of scientific personnel and practicing statisticians. The draft list of census questions was discussed in 1957 at the All-Union Conference of Statisticians, and was then applied in practice in a test sample census conducted on August 1, 1957 in seven raions and cities of the country having different types of distribution of population and different composition in terms of occupation, nationality, and so forth.

All Soviet citizens and foreign subjects who may be in Soviet territory at the time of the census, are subject to the census-taking.

It is established that the census will be taken by questioning the population, and this will be conducted by specially trained census takers over an eight day period from January 15-22. The census taker is required to meet the entire adult population in person. Regardless of the date of the meeting, the census lists will be filled as to the situation obtaining at midnight, local time, on the night of January 14-15, 1959. Answers to the questions on the census list will be based on the words of the person questioned without checking documents. Over a ten-day period from January 23rd to February 1st, specially selected instructor inspectors will, with the census takers and, in rural areas, with authorized representatives of the village Soviets, conduct a complete check visit to all buildings and verify the accuracy of the census taken by the census takers, that is, to determine whether the census committed omissions or repeated the counting of individual persons.

The date, month, and year of the census (Thursday, Jan uary 15, 1959) were not chosen at random. The census data will be employed in compiling the long range plans fo the development of the economy of the USSR. In selecting the year for the census, recommendations of the statistic commissions of the United Nations to the effect that censuses should be conducted in all countries in a year endin with zero, or adjacent thereto, was taken into considerati The winter month chosen for the forthcoming census, January, is, under the conditions existing in the USSR, the month of minimum population mobility; and this makes po sible the procurement of the most highly accurate data. I addition, it also makes possible a more accurate compari of the results of the forthcoming census with the last one which, as we know, also took place in January. Utilizatio of census data for comparison with the data of the curren estimate, and calculations which are also based on the beginning of the year, will also be facilitated. The date of the census, Thursday, January 15, 1959, is a mid-week day when population movement is relatively smaller than on days adja to the day of rest, Sunday. In addition, there will be no m movements of students at this time, as the school holiday will already have ended and the college students' holidays will not yet have begun.

When necessary, information sheets on the fact that a census is being taken, will be issued so as to assure correct counting of the population, and control blanks will be compiled. The information sheets will be issued to all temporary residents in each building, and also to persons who will be counted on trains, aboard ship, in railroad stations, in hotels, etc. The information sheets will prevent repetition in the census lists, as each person who is a temporary resident will, on movement to another place before the end of the census, not be listed again if he possesses the sheet. The control blank will be filled for those who are elsewhere at the critical moment of the census and do not possess the census information sheet, and they will be listed where they are as part of the local population. The control blank will contain the same questions as the census list and, in addition, a question as to the address of the given person at midnight, January 14-1 1959, so as to check whether the individual had been count in the census at that address. If the given individual was listed, data from the control blank will be transferred to census list, and if he had been listed, the control blank wi be suppressed. Thus the purpose of the control blank is t make sure that there is no underestimation of the population.

In the Far North and certain other places that are distant or difficult of access (mountain or taiga), the census will be conducted earlier. Thus, the census was taken in July and August 1958 in the Turukhansk raion of Krasnoyarsk krai, and in Katanga raion of Irkutsk oblast; and in August and September, it was taken in the Aleutian and Tigil raions of Kamchatska oblast and in the Evenki national okrug of Krasnoyarsk krai; while in October throug November, it will be taken in raions of Magadan oblast; in November and December, in raions of the Yamalo-Nen national okrug of Tyumen oblast, etc.

Instructions as to the taking of the census envisage that the census lists be filled out by apartments, and in each apartment, by families; thus making it possible to obtain information on the size and composition of families as the result of elaboration of these data. These indices are necessary for a study of prospective changes in the numb of the population, and for purposes of government plannin

The scope of the forthcoming census (the questions in t census list) make it possible to obtain a more or less rou aracterization of the population of the USSR, and to re-ct the profound changes that have occurred in Soviet so-ty in the past twenty years.

Replies to the first question in the census list on rela-n to head of family will make possible a more complete l exact counting of the population, inasmuch as the fam- listing in the census list will make for correct count- of all persons present and temporarily absent. The pro-cted elaboration of these data for the USSR as a whole, republics, krais, and oblasts, by urban and rural popu-ed points, by individual nationalities and social groups, ll make it possible to obtain data on the total number of nilies and the grouping thereof by size and composition.

The answers to the second and third questions on the nsus list will make it possible to determine the number persons temporarily absent, and also the number of tem-rary residents. This is necessary primarily for the pur-se of obtaining precise data on the number of the perma-nt population and the population present.* Elaboration of results of the census will be done primarily on the bas- of the data on the population actually present, as various es of services to the population are based on the total pulation, including its temporary component. The num-r of the permanent population will also be determined, d a description thereof will be arrived at, as this is nec-sary for planning such matters as the building of housing d schools, etc.

Replies to the fourth and fifth question on the census t will provide exceedingly important data on the sex and e composition of the population. We know that in the SSR, unlike capitalist countries, women have rights equal those of men. The data of the forthcoming census will flect the ever-increasing role of women in the adminis-ation of government, and in the economic, cultural, and litical life of the country. In 1956, women constituted per cent of the total number of workers and office rkers; in industry, this figure was 45 per cent; in trade d public eating places, 65 per cent; in public health, 85 r cent; and in administration, 50 per cent. Data on the stribution of the population by sex and age are exceeding- important to the organs of government administration, e organs of planning, and for the solution of a number of ientific problems.

The labor force of oblasts, krais, republics, and in the untry as a whole, will be determined on the basis of the ta on the age and sex composition of the population, as lated to the data on the number of persons occupied in rk and study. And this will also serve to determine the gree to which the labor force, and reserves therein are lized, and measures for planned and rational employ-ent thereof will be able to be taken.

Data on the number of children up to three years of age are needed to plan the building of mothers' consultation points, day nurseries, and the training of personnel for these. Data on the number of children up to six years of age are needed by each year of birth, so as to prepare correct future plans for the development of school construction, for the number of children to be taken into the entering grade of the schools, and for the appropriate training of teaching personnel.

Data on the age and sex composition of the population are needed for correct planning of commerce, and uninterrupted supply of consumer goods to the population. Data on the age and sex composition of the population are also needed to study the prospects for future population growth.

Answers to the sixth question on family condition make it possible to obtain data on the number of men and women who are married. These data are important for study of prospects of population growth, and for solution of a number of practical problems having to do with the further strengthening of the Soviet family.

The answers to the seventh and eighth questions on nationality and native language will be used to determine the population of the USSR as a whole; its republics, krais, oblasts, cities, and raions by nationality; and to determine the distribution of the language of each nationality. In elaborating the results of the forthcoming census, it is proposed to differentiate more than a hundred nationalities, peoples, and national groups by the various republics, territories, krais, and oblasts; and to compile the numbers of each nationality. Data on the distribution of the population of each nationality, between urban and rural districts, by sex, age, marital status, family size, level of education, occupation, branch of the national economy, and group in society, also make it possible to obtain valuable data for characterization of the development of the economy and the culture of the national republics, oblasts, and okrugs.

The ninth question on the census list makes it possible to determine the number of Soviet citizens and of foreigners living in the USSR. The results of the census will reflect the policy of the Soviet government toward the development and strengthening of the international relations between our country and other countries.

The tenth question on the census list will permit elaboration of information on population distribution in accordance with educational level. The results of the census will reflect the tremendous successes scored in the Soviet Union in public education, and in the training of highly qualified specialists for all branches of labor.

The answers to the eleventh question will make it possible to obtain precise data on the number of students in the various types of educational institutions.

The answers to the twelfth question will provide data on the development of new branches of industry, science, and technology in the past two decades. These data will make it possible to determine the number and relationships of the population occupied in the branches of material production (industry, construction, agriculture and forestry, transportation, etc.), and in the non-productive branches (housing and service industries, public education and training of personnel, culture and arts, scientific organizations, credit and insurance institutions, the administrative apparatus, and similar organizations). These data will provide the necessary characterization of the relationship of labor resources occupied in industry and agriculture, and also in other fields of activity. They will assist the organs of government administration and leadership of planning, in the organization of more useful employment of the country's labor force in the future, and will be a most valuable source of material for scientific investigations in economics.

The population present in each center of population, is emed to consist of persons actually living there at the ne of the census, regardless of whether the given center population is a temporary or permanent residence for e individual. The permanent population of the given center population is deemed to consist of those persons currently sident there, for whom this place is their regular abode; d also of persons temporarily absent, for whom this place their regular abode, even though they may temporarily in other places of population at the time of the census. nsequently, the population present is equal to the per-anent population minus those temporarily absent, and plus ose temporarily resident therein. And the permanent pulation is equal to the population present, minus the nporary residents, and plus the temporary absentees.

The results of the elaboration of answers to the thirteenth and fourteenth questions are necessary to characterize the composition of the occupied population by skills. They will determine the development of new skills (occupations), and the disappearance of many occupations related to heavy physical labor. The results of the elaboration of the census materials will show the distribution of our country's population in terms of sources of income. In particular, the population occupied in government, cooperative and socialized enterprises, organizations, and offices will be revealed, as will those occupied in their own personal enterprises in addition to pensioners and persons receiving stipends (living at the expense of the government, of cooperative, and of public organizations), and those being supported by individual citizens. The distribution of the population by occupation will make it possible to clarify the relationships between the number of workers and office workers in the various branches of the national economy both for the USSR as a whole, and for the republics and the administrative economic districts. The groupings by skill and branches will become clear (miners, metal processing workers, metal manufacturing workers, chemists, builders, food workers, textile workers, clothing workers, shoe workers, railway men, etc.), and these in turn will be subdivided into their most numerous and fundamental skills. For example, the group of workers occupied in the manufacture of machinery and the processing of metal will, it is proposed, be broken down to show the most numerous groups of machine operators (lathe operators, milling machine operators, etc.), machinists, smiths, welders, press operators, stamping machine operators, etc., while the group of engineering and technical personnel will show engineers, technicians, laboratory assistants, agronomists, veterinarians, zootechnicians.

The data on the distribution of the occupied population by branch of the national economy and by skill will serve as the basis for planning further training of skilled personnel, both workers and specialists, and for various types of scientific investigations for the realization of general governmental measures for the further improvement of the organization of the national economy and for more rational utilization of the labor force.

The last, fifteenth, question on the census list is designed to obtain data on the distribution of the population among social groups. The replies to this question will be used to calculate the number of workers, office workers, collective farmers, artisans belonging to cooperatives, individual peasants, individual artisans, persons in the free professions, and religious employees. This distribution will show the class composition of the population of the USSR as of the beginning of 1959.

The government has instructed the Central Statistical Administration of the USSR to present to the Soviet Cabinet, as of April 25, 1959, preliminary results of the elaboration of the census for the USSR as a whole, and also for republics, krais, oblasts, and individual cities, containing data on the number of the permanent population and the population present, with its distribution by sex, and with differentiation between urban and rural population. By December 30, 1959, the government is to be provided with the major data of the elaboration of the census for the USSR as a whole, and also for the republics, krais, oblasts, and individual cities; with data on the population by sex, age, nationality, language, education, level of education, family condition, social group, source of livelihoo branch of national economy, field of production and, most important, occupations. In 1960, a further and more profound elaboration of the census materials will be conducted, including a characterization of the population of various nationalities in social groups as to education, current study, and family position in conjunction with sex and age, family groupings by size for individual nationalities and social groups; and also data on the number and composition of the Soviet intelligentsia.

Thus the questions in the census list will make it possible to obtain an all-round demographic, national, cultural, professional, industrial, and socio-economic description of the population of the USSR. The elaboration of this census material will be carried out on calculating machines made in this country, with special devices prepared for census elaboration purposes. A rapid electronic computer will be employed experimentally to elaborate the census material.

In order to provide organization of, and assure all-round elaboration of the census materials, it will be necessary to solve a number of complex problems involving painstaking investigation. In the first place, it is necessary to set up a program for the elaboration of the census material consisting of a given system of importan indices to be compiled in the final tables of elaboration. Moreover, machine analysis of the census materials will require earlier classification and dictionaries of skills by professional and industry branch groups, branches of the national economy and production, nationalities and languages, and educational institutions. These classifications and dictionaries are necessary as aids for the codi of replies to given questions on the census list, to permi mechanized analysis of the census materials.

In compiling the classifications and dictionaries, a number of complex questions arise that are capable of solution only by the joint effort of Soviet economists, statisticians, and the broad mass of practical workers in the statistical and planning agencies. Thus, in compiling a classification and dictionary of occupations, it is necessary to take into consideration that the result of the census distinguishes between skilled and unskilled occupations, between mechanized and non-mechanized labor, between the fundamental and the auxiliary occupations. Scientific interest attaches to the "multiple" operations that are encountered in many fields. The forthcoming All-Union Census is of major importance to the national economy. Successful carrying out thereof will depend, t a considerable degree, upon the assistance given to the government statistical agencies by scientific personnel, and particularly by economists, as well as by the centra and local organs of government, trade unions, and other public societies, and by the appropriate institutions.

In preparing for the 1920 census, V. I. Lenin noted: "The census is not the concern of a particular administrative agency, but the concern of the republic, the concern of all Soviet institutions."

The attention of the entire population should be drawn to the census. Only if this is done will it be able to be carried out in organized fashion without mistakes, and will it be able to provide complete and accurate data.

u. Belyaev:

uilding Socialist Industry n the Korean People's Democratic Republic[xxx]

In September 1958, the Korean people will celebrate a gnificant date, the tenth anniversary of the formation of e Korean Peoples Democratic Republic, the creation of hich was a most important historical achievement of the orking class and of the entire working people of Korea. ne working people of the Korean Peoples Democratic epublic, led by the Korean Party of Labor, has defended e conquest of the socialist revolution in the war of beration against the American aggressors and the yngman Rhee clique, has attained significant successes in e restoration of its economy destroyed by war and in the uilding of the foundations of socialism. Thanks to the rengthening of the Peoples Democratic governmental ructure, and the continuous improvement in its functiong as a dictatorship of peoples' democracy, the Korean arty of Labor has been successful in carrying out the uilding of socialism in the northern portion of the Reblic.

The carrying out of socialist industrialization plays the ecisive role in the upbuilding of the socialist economy of e Korean Peoples Democratic Republic. The objective ecessity for socialist industrialization of the Republic rises both out of the general laws of the building of soalism and out of the specific features of the development the economy of the country in the past and the present.

Unlike the majority of the countries of the world socialt system, it is a special feature of the transition period the Korean Peoples Democratic Republic that socialist nstruction is being developed here in a former colony, d moreover not in the territory of the country as a hole but only at its northern portion.

Korea, one of the first colonial countries to enter the ad of the building of socialism, was under the oppreson of the Japanese imperialists for almost forty years. panese industrial capital, represented by the largest onopolist combines (Mitsubishi, Mitsui, Noguti, and other mpanies), seized the decisive positions in the country's onomy, and limited and ousted the national bourgeoisie all possible means. Until the 30's of the twentieth ntury, modern industry was virtually lacking in Korea. bsequently, the Japanese imperialists, preparing for r with China and the Soviet Union, proceeded to build rious industrial enterprises in Korea, primarily in the el and raw materials producing branches of industry. a result of the militarization of the economy, the inease in industrial production led to an increase in the are of industry in the total output of industry and agrilture from 48.2 per cent in 1936, to 52.3 per cent in 40.

However, the development of industrial production in rea that took place during the period of Japanese domition was exceedingly lopsided, and was unable to change overall agrarian and raw-material-producing direction specialization of the country's economy. The Japanese nopolists strove to render permanent the position of the country as an agrarian and raw-material-producing appendage of imperialist Japan. The industry of colonial Korea chiefly produced raw materials and semi-manufactures which, for the most part, were exported to the metropolis. The industrial production of colonial Korea was unrelated to the requirements of the country's own economy.

The hypertrophied development of war industry and the branches of heavy industry related thereto, resulted in an irrational and distorted structure of industrial production. In 1944, industries in Group A constituted 70.4 per cent of the total industrial output. At the same time, light and food industries were developed to an entirely inadequate degree. In 1944, the production of fabrics came to a total of 2 million meters all told. As a result of the existing disproportions between relatively well-developed raw material producing and backward processing industries, approximately 80 per cent of the production of the mining industry was exported from Korea to Japan in unprocessed form. Disproportions were also observed between branches and within branches of the processing industry. The colonial character of the industry of old Korea was most clearly manifested in the exceedingly backward development of the manufacture of machinery. In 1944, only 1.6 per cent of the gross production of industry represented the production of machinery and of the metal processing industries. The machinery building industry ranked last in the degree to which it satisfied the requirements of the economy. The dependence of the country's industry upon Japan was also expressed in the field of engineering and technical personnel, the vast majority of whom were Japanese. In 1944, almost 80 per cent of all persons with specialized training in the processing industry were Japanese.

Agricultural production, in which 70 per cent of the population of Korea was occupied, was at a very low level. The system of semi-feudal relationships in the villages inhibited the growth of the productive forces of agriculture. Feudal rents, land hunger, requisition of produce from the peasants for the Japanese army, and high taxes all led to mass impoverishment of the Korean countryside.

After the Second World War, the oppressive consequences of the Japanese colonial regime were sharpened by the artificial division of Korea into two parts: the northern and the southern, as a result of the forcible occupation of the southern portion of the country. The division of Korea interfered with industrial and commercial relationships between the northern and southern districts. North Korea, having the bulk of the mineral resources, had 80 per cent of the heavy industrial production of the country. South Korea, on the other hand, was essentially an agricultural district. Here were most of the enterprises in light industry. The artificial separation of the heavy industry of North Korea from its agricultural base and from the light industry of the southern portion of the country reinforced the disproportions in the national economy and thus complicated the process of construction of a socialist economy in North Korea.

The lopsidedness of the development of, and the backwardness of, the Korean economy inherited from the period of rule by the Japanese imperialists, rendered more profound by the division of the country, determined the special features of the solution of the problem of socialist industrialization after the liberation of Korea from the Japanese conquerors. The Korean Party of Labor, undertaking the execution of its policy in the field of the economy, could not confine itself merely to uplifting the lagging branches of the national economy and to a quantitative increase in production. In order to establish the economic foundations of socialism in the Korean Peoples Democratic Republic, it was necessary, by making use of the advantages of the peoples' democratic system, to solve the sharp contradiction between the socialist relationships of production that had sunk roots in the Republic, and the distorted, inadequately developed forces of production; to eliminate all the consequences of Japanese imperialist rule in the economy, and also the consequences of the country's division, and to assure the victory of the socialist system of production in all fields of the national economy.

The difficulties in the building of the economic foundations of socialism in the Republic lay also in the fact that its national economy was destroyed first by the Japanese imperialists (when they fled Korea in 1945) and subsequently by the American imperialists (during the intervention of 1950-53). Unlike the other countries of the socialist camp, the working people of the Korean Peoples Democratic Republic were compelled to restore the national economy of the Republic twice, and had to spend almost eight years in all to do so.

Even during the first period of peaceful upbuilding (1946-1950), the Korean Peoples Democratic Republic scored successes in the field of economics. Thus, the gross production of industry during these years multiplied 3.7 times, attaining the highest level that had been attained during Japanese rule. However, the three years of war set loose in Korea by the American interventionists inhibited the process of creating an economic foundation for a new social order. Despite the growth in certain branches of industry during the war with the American interventionists, industrial production in 1953 was reduced over-all by 32 per cent relative to its level of 1949. The destruction wrought by the war to the national economy led to a sharp shortage of industrial and agricultural raw materials, and reduced the living standard of the people.

Under the conditions of the tremendous difficulties during the first years of reconstruction, the Korean Party of Labor and the government of the Korean Peoples Democratic Republic steered a course of rapid reconstruction of the economy that had undergone destruction by the war. The major undertaking of the period of reconstruction, as was emphasized by the Sixth Plenary Meeting of the Central Committee of the Korean Party of Labor in August 1953, was the attainment and then the surpassing of the pre-war level of the development of industry and agriculture. Moreover, the problem consisted, as was noted in the Three Year Plan for Reconstruction and Development of the National Economy (1954-1956), in "not only restoring the national economy that had been destroyed in its previous form, but eliminating colonial lopsidedness inherited from the period of long rule by the Japanese imperialists, and of creating the foundations for further socialist industrialization of the country, simultaneously providing for a predominant increase in heavy industry and a sharp uplift in light industry and agricultu to stabilize and improve the living standards of the popu tion that had been impaired due to the war."(1)

During the period of reconstruction the working peopl inspired by the Korean Party of Labor, carried out an enormous task in all fields of the national economy. In 1956, the gross production of government and cooperativ industry was 2.9 times as high as in 1953, and double th level of 1949. The successful fulfillment of the Three Ye Plan was keyed by the rapid reconstruction and expansio of the major elements of production. The total sum of go ernment capital investment in the national economy duri the three post-war years (1954-56) was 80.6 billion von; while about one-half the total sum of capital investment the national economy as a whole went to industry. Durin the period of the Three Year Plan, 320 large and mediu sized industrial enterprises were restored, expanded, o built.

The Korean Party of Labor and the government of the Korean Peoples Democratic Republic gave their major attention to reconstruction of heavy industry, which suff tremendous losses during the war. The total sum of cap investments in heavy industry during the Three Year Pla came to 32.4 billion von, or 81.1 per cent of the total ca tal investment in industry.

The first priority given to the reconstruction of heavy industry determined the fact that the rate of production means of production would be higher than in any other fi while the gross production of all industry during the yea of the Three Year Plan increased 2.8-fold; production of the branches in Group A increased four-fold; and those i Group B, 2.1-fold (2). The average annual rates of incr of industry as a whole in 1954-56 were 42 per cent, of w the production of means of production rose 59 per cent p year and production of consumer goods, 28 per cent.

As a result of the high rate of industrial upbuilding an the rapid growth of productive capacity, improvement in the utilization of equipment, and increase in the producti of labor, virtually all the branches of industry (except fo electric power, fuel and chemical, which had suffered th greatest losses during the war) attained and surpassed t level of pre-war 1949 by the end of 1956. The first prio given to the reconstruction and development of heavy industry, and the growth of industrial production on the wh on the basis thereof raised the share of industry in the gross production of industry plus agriculture from 46.7 per cent in 1949, to 63.4 per cent in 1957.

In 1956, about 34 per cent of the national income of th Korean Peoples Democratic Republic was represented b industry.

The ratio between heavy and light industry in the cou try's industrial production underwent a significant chang

	1953	1954	1955	195
Total Industry	100.0	100.0	100.0	100
Group A	37.7	47.1	51.7	53
Group B	62.3	52.9	48.3	46

The establishment of new proportions in the national economy, and in industry in particular, was manifested most clearly in the improvement of the internal structu of industrial production. The rapid growth of machinery manufacture, and of light industry, particularly textiles, that is, of those branches of industry which had had the least development in colonial Korea, significantly increa their proportion in the total industrial output, and made a reduction in the disproportions in the structure of ind erited from the colonial period. Machine manufacture, ich had been in one of the lowest positions in gross instrial production under Japanese rule, was raised to the cond place after the textile industry by the end of 1956. ere was a corresponding increase in the share of machine lding and metal production to gross industrial producn; from 15 per cent in 1944 to 26 per cent in 1956 (see le below).

The accelerated development of native manufacture of chinery, and the assistance of considerable technical and onomic aid by other countries of the socialist camp — marily the Soviet Union — made it possible to carry out technical reconstruction of the Republic's industry, even ring the period of reconstruction.

ercentage Share of Machinery Manufacture and Textile Industry in Total Industrial Production*

	1944 North Korea	1949	1953	1956
Manufacture of machinery and metal working	1.6	8.1	15.3	17.3
Textile industry	6.0	11.4	25.7	18.4

enche Engu, No. 1, 1957, p. 69: Kenche Konsol, No. 5, 958, pp. 15-16,

The growth in the production of large-scale industry relted both from the restoration of destroyed industries, eir reconstruction and expansion, and from the construcn of new industries. The number of the latter was more n 25 per cent of the total number of large and mediumzed industrial enterprises launched during the period of construction. The rebuilt and new enterprises were uipped with modern equipment and machines. The carryg out of a technical reconstruction of industry, and the owth of labor productivity made for a rapid increase in volume of industrial production.

The socialist sector of industry created as a result of tionalization came to occupy the dominant position in dustrial production even at the beginning of the transition riod. In 1957, the socialist sector represented 98.7 per nt of gross industrial production, as against 90.7 per cent 1949.

Along with the development of socialist reconstruction of dustrial production and the further expansion of the posins of the socialist system of society in industry, there ok place the socialist transformation of relationships of oduction and agriculture by moving hundreds of thousands individual peasants toward cooperative enterprise. As of rch 1958, 98.6 per cent of all peasant households were in ricultural cooperatives, and these tilled 99.1 per cent of the land under crops. Virtually all the agricultural coeratives of the Republic are of the highest type of coerative economy in which distribution of income is only accordance with the labor contributed. The triumph reded in the socialist reconstruction of the countryside eated the fundamental prerequisites for technical transmation and further development of the productive forces agriculture.

Vith the essential completion of the socialist transforman of agriculture, the share of the entire socialist sector he national income rose from 44.5 per cent in 1949, to per cent in 1956. At present the socialist system has ne to occupy the dominant position both in industry and griculture. The socialist system also occupies the decisive positions in retail trade. During the first quarter of 1958, it accounted for 97.5 per cent of total retail trade. Comrade Kin Ir Sen, in evaluating the results of the ten-year struggle of the working people of the Republic to realize its socialist transformation, stated that a decisive triumph for socialist production relationships had taken place in the towns and villages, and that socialism had sunk firm roots into the life of the Korean people.

The successes in all fields of economic upbuilding, attained during the period of reconstruction by the working people of the Korean Peoples Democratic Republic under the leadership of the Korean Party of Labor are intimately related to the enormous assistance given to the Republic by the other countries in the socialist camp. During the difficult period of the Republic, when after the conclusion of the armistice in 1953 its economy was virtually completely destroyed as a result of the war, the countries of the socialist camp, true to the principles of proletarian internationalism, came to the aid of the Korean people. The Soviet Union gave the Korean Peoples Democratic Republic a gift of one billion rubles to assist in its most rapid reconstruction. This sum served specifically to enable the Soviet Union to assist the Korean Peoples Democratic Republic in the reconstruction and construction of more than twenty large industrial and other enterprises, constituting the core of its national industry. The Chinese Peoples Republic gave the Korean Peoples Democratic Republic a gift of 800 million yuan; and the European lands of peoples' democracy gave a total of about 900 million rubles. The socialist peoples gave the Korean Peoples Democratic Republic various types of equipment and machinery, the percentage of which in machinery manufacture and textiles alone came to over 90 per cent of the total amount of equipment and machinery. The countries of the socialist camp sent highly-qualified specialists to the Korean Peoples Democratic Republic. They participated in the designing of various structures, in the building of enterprises and launching them, and also in the training of personnel. The all-around material, financial, and scientific and technical aid given to the Republic by the Soviet Union, Chinese Peoples Republic, and other socialist countries was employed as a supplementary source of accumulations and increase in popular consumption; and constituted an enormous contribution to the upbuilding of socialism in the Korean Peoples Democratic Republic. Basing itself on the brotherly aid of the countries of the socialist camp, the Korean Peoples Democratic Republic was able, even in the years of the Three Year Plan, to realize the reconstruction of industry to a considerable degree on the basis of the latest in technology and to advance in the liquidation of its technical and economic backwardness; to improve the structuring of industrial production, and thereby to create the necessary material and technical prerequisites for the further uplift of its economy.

The Third Congress of the Korean Party of Labor which took place in April, 1956, summarized the results of the post-war reconstruction and development of the national economy of the Korean Peoples Democratic Republic, and outlined a program of economic construction for the forthcoming five year period. The draft of the first Five Year Plan (1957-1961) developed by the Korean Party of Labor was submitted for broad discussion by the entire population, and was approved in June 1958 by the Supreme Peoples Assembly of the Korean Peoples Democratic Republic.

The first Five Year Plan is an important stage in the solution of the main economic task facing the Korean Peoples Democratic Republic, which is the creation and the further strengthening of the economic foundations of socialism in the Republic, and the solution, for the most part, of the problem of providing the people with food, clothing, and shelter. After the triumph of the socialist method of production in industry and agriculture, the problem arose of the creation of a material and technological foundation corresponding to the new socialist relationships of production by further all-around development of socialist industrialization with preference to heavy industry. Only on the basis of modern heavy industry, and the preferential growth thereof, was it possible to organize expanded reproduction to realize the technical reconstruction of all branches of industry, and finally to overcome the lopsidedness and backwardness of industry inherited from the former colonial period as well as to assure rapid increase in labor productivity, up-to-date organization of work, and thereby sharply to raise the living standards of the masses of people. In carrying out its line of favoring development of heavy industry, the Korean Party of Labor was guided by Marxist-Leninist teachings, and by the experience of the Soviet Union and the other countries of the socialist camp.

One of the most important special features of socialist industrialization in the Korean Peoples Democratic Republic during the first Five Year Plan period is the fact that it is proceeding in conditions of triumph of socialist relationships in production. The dominance of socialist economic forms in the economy of the Korean Peoples Democratic Republic, assures high rates in the industrialization of the Republic. During the years of the first Five Year Plan, the volume of gross industrial production is to be increased by 2.6 times, and the average annual rate of increase is to be approximately 22 per cent. This means that at the end of the five year period, the pre-war level (1949) of industrial production will be exceeded by 5.2 times, and the maximum level of industrial production under Japanese rule (1944) by 5.7 times. In the final year of the Five Year Plan (1961), the Republic's industry will produce more than during the entire period 1954-1956 inclusive.

Production of the Most Important Types of Industrial Products at the end of the First Five Year Plan (1961) as compared to 1956*

	Unit of measurement	1956	1961	1961 as per cent of 1956
Electrical energy	Billions of kilowatt hours	5.1	9.7	190
Coal	Millions of tons	3.9	12	300
Steel	Thousands of tons	190	670	350
Pig Iron	Thousands of tons	187.2	700	370
Rolled Steel Products	Thousands of tons	132.7	500	370
Cement	Thousands of tons	597	2000	330
Mineral Fertilizers	Thousands of tons	195	630	320
Textiles	Millions of meters	77.1	200	260

In accordance with the policy of creation and strengthe
ing of the foundations of socialist industry conducted by
Korean Party of Labor, the first Five Year Plan envisag
an increase in the production of means of production by
times, including ferrous metallurgy, 3.2 times; the chem
industry, 3.6 times; machinery manufacture and metal
processing 2.6 times; the cement industry, 2.9 times; an
the fuel industry, 2.5 times. In determining the rates of
crease of the various branches of heavy industry, the
Korean Party of Labor and the government of the Korea
Peoples Democratic Republic took into consideration the
presence in the Republic of the required natural resourc
and the various economic conditions corresponding ther
the needs of the national economy and also export requir
ments.

During the first Five Year Plan, as during the years c
the period of reconstruction, considerable attention is
given to the development of the manufacture of machiner
In conjunction with the real possibilities of the Republic
and the requirements of its national economy, major att
tion is devoted to the development of the building of med
category and small machines. During the Five Year Pla
the total number of metalworking tools in the machinery
manufacturing plants of the Korean Peoples Democratic
public will double. Serial production of mining equipmen
electrical motors, agricultural machines, building mach
equipment for light industry, and various types of spare
parts for machinery is being organized. Even during the
current Five Year Plan, the machinery-building industry
of the country will be able to supply a considerable prop
tion of the new plants and mines being built in the countr
with complete sets of equipment. The manufacture of m
chinery will be the foundation for guaranteeing technolog
progress and expanded reproduction.

The metal producing industry will attain further devel
ment during the first Five Year Plan. At the present tin
when technical reconstruction of the national economy is
ing carried out in the Republic on a large scale, the mak
of metals is of particular importance. Without a highly
veloped metal producing industry it is impossible to assure rapid advance in the manufacture of machinery and
transportation or successfully to carry out new construc
tion. One of the major undertakings of the iron and stee
industry during the current Five Year Plan is to supply
the country's needs for iron and steel, for standard stee
sections, and for certain grades of special steel. The r
quired increase in pig iron production will be accomplis
by the erection of two blast furnaces at the iron and ste
mill of the town of Sonnim. One of these furnaces, equi
with the latest of equipment, manufactured in the countr
itself, has already gone into operation. The capacities c
the Sendin and the Kansen Steel Foundries will rise considerably as these enterprises receive modern equipme
and as progressive methods of production of steel and r
sections are introduced. Three coke batteries (250,000
capacity per year each) are being built at the Sonnim an
Chondin Iron and Steel Mills in order to expand coke pr
duction. At the end of the Five Year Plan, the Republic
completely meet its own needs in coke out of its own pr
duction. During the current Five Year Plan, non-ferrou
metallurgy will considerably increase its output of elec
lytic copper, lead, and zinc. It is planned to organize th
production of nickel, molybdenum, and a number of othe
non-ferrous metals. Electric furnaces and rolling mill
are being erected at a major non-ferrous metals enter
the plant in the city of Nampkho. At the end of the Five
Year Plan this enterprise will have been transforme

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*Compiled on the basis of data in Nodon Sinmun, February 24, June 11 and June 21, 1958.

nto a large complex of plants with a complete cycle of roduction.

The significance of the chemical industry is gaining teadily in the development of the national economy and in aising the living standards of the working people. The undamental objective placed before this branch of indusry during the First Five Year Plan is rapid increase in he production of mineral fertilizers to meet the needs of griculture. It should be noted that in view of the limited rop lands of the Korean Peoples Democratic Republic he major direction to be followed in increasing harvests f agricultural produce in the Republic consists of the evelopment of irrigation, expanded application of mineral ertilizers, and introduction of advanced agricultural methods. In 1961, the production of mineral fertilizers will e 320 per cent of the 1956 level. There will be a coniderable increase in the output of poisons used in agriulture. An important problem posed before the chemical ndustry is also the expansion of the raw material supply or the textile industry by developing the output of artifiial fibers. In 1961 the output of such fibers will be over 0,000 tons. During the current Five Year Plan, the celulose plant in the city of Sinyydiu is being expanded, and lants to manufacture synthetic fabrics from calcium caride are being built. Thus the foundation of a synthetic materials ndustry is being established in the Korean Peoples Democratic Republic. Rapid development of the production of artificial fibr, along with the expansion of the acreage under cotton and flax, will make it possible by the end of the present Five Year Plan to vercome the lage in the supply of raw materials for the textile ndustry, and considerably to reduce imports from abroad.

An important economic problem advanced by the First Five Year Plan is the accelerated development of the fuel nd power, and/or mining industry. In August 1958, the estoration of the Supkhun 700,000-kilowatt hydroelectric lants on the Kochongan, Puchongan, and Chandingan Rivers will be completed. In the course of the Five Year Plan, the Kangen hydroelectric plant (first section) of a lanned capacity of 246,000 kilowatts, and the Toknogan 0,000-kilowatt hydroelectric plant will go into operation. New fuel-operated power plants of a total capacity of more han 100,000 kilowatts will be built at industrial enterrises. The output capacities of coal mines at Aodi, Andiu, nd Sinchan will be increased. At the end of the Five Year Plan, the coal industry of the Republic will completely meet the needs of the national economy for coal (except for oking coal).

The extraction of iron ore and non-ferrous metal ores will increase considerably during the current Five Year Plan, and special attention will be given to the introduction f new methods of ore dressing that will assure maximum ecovery of metal. The output of magnesite, graphite, luorspar, mica and other non-metallic minerals will be ncreased, as will that of rare metals, such as cobalt, hromium, and tungsten. After the solution of practical roblems of industrial extraction and production of rare metals in the Republic has been attained, a native rare metals and alloys industry will gradually be established. Geological prospecting work will be expanded in the Korean Peoples Democratic Republic.

One of the major problems of the national economy is hat of assuring correct relationships between the rates of growth of production of the means of production and the roduction of consumer goods. The policy of the Korean arty of Labor, directed toward first-priority increase in eavy industry, along with simultaneous development of ght industry and agriculture, reflects the objective reuirements of the economic development of the country and constitutes a creative application of Marxist-Leninist theory. It should be noted that the Korean Party of Labor is applying this policy with the required flexibility, in accordance with the development of the nationalized economy at its successive stages.

A special feature of the development of industry during the First Five Year Plan is a narrowing of the difference in the rates of development of heavy and light industry. During the current Five Year Plan, while industrial production as a whole will increase by 2.6 times, production in Group A will increase by 2.9 times, and production in Group B by 2.2 times; the average annual rates of increase being respectively 23.7 per cent and 17 per cent. (During the Three Year Plan, the rates of development of heavy industry were 2.1 times those of light industry.) The following are the conditions giving rise to the reduction of the rates of growth of the two divisions: during the Three Year Plan the bulk of the increase in heavy industry was due chiefly to new construction. However, during the First Five Year Plan, the growth of industrial production both in heavy and light industry will come chiefly from new construction, and also from fundamental reconstruction of existing enterprises.

The production of the textile industry will undergo a sharp increase. The Chungyang Textile Complex will be extended, and a number of new silk fabric and linen plants will be built. In 1961 the total production of fabrics per head of population will be more than 20 meters. The production of leather footwear will multiply tenfold during the Five Year Plan. The further rapid development of agriculture and fisheries will create the conditions for a sharp upswing in the fisheries industry, the production of which will rise 3.8 times during the Five Year Plan.

The successful organization of the peasantry into cooperatives has made possible a significant increase in agricultural output. In 1957, 32 million tons of grain was harvested in the Korean Peoples Democratic Republic; this is 32 per cent more than in 1944. Thus, the food problem for the Republic was fundamentally solved.

The rapid growth in the forces of production in all branches of the national economy is the basis for an expected increase in national income to more than double its previous level. During the Five Year Plan, as a result of the continuous rise in the wages of workers and office workers and systematic price reduction, and also due to increase in employment, the real income of the working people will increase by approximately 50 per cent.

In a general evaluation of the prospects for development of the national economy of the Republic, note should be taken of the fact that fulfillment of the First Five Year Plan does not yet represent completion of socialist industrialization, but rather a further strengthening and expansion of the foundations of socialist industrialization.

In 1961, the Korean Peoples Democratic Republic will be one of the economically advanced countries of Asia. In the gross production of industry plus agriculture, industry will rise to represent 70 per cent of the total, and the production of means of production will constitute over 60 per cent of the total industrial production in the Republic. In the production of a number of important industrial items per head of population (electric power, coal, pig iron, cement, and mineral fertilizers), the level will not only attain but exceed the present level of production of the most advanced capitalist country of Asia today, Japan. In the coming six or seven years the production of the most important products of industry will attain the following figures: electric power, 20 billion kilowatt hours; coal, 25 million tons; pig iron, 4 million tons; steel, 3-3.5

million tons; chemical fertilizer, 1.5-2 million tons; various fabrics, 500,000,000 meters.

The broad scope of the work to be done in the technical reconstruction of the national economy, and the high rate of development of industrial production pose most sharply the question of sources of accumulation of the necessary capital. As noted above, during the 1954-1956 period the financing of industrial construction came, to a considerable degree, from external sources of accumulation, and primarily from free gifts of material and technical aid by the other countries of the socialist camp. During the years of the Three Year Plan, free gifts from the socialist countries represented an average of 23.6 per cent of the total income of the national budget. With the further development of the socialist economy, the decisive factor in budget income will come to be internal sources of accumulation. Thus, even in 1958, the income to the state budget from the socialist enterprises will be 92.5 per cent (planned), and the income in the form of aid from countries in the socialist camp will be 4.5 per cent.

An analysis of the material resources and needs of the national economy for capital investment has resulted in determining capital investments for the 1957-1961 period as 147 billion von. The main problem in the field of capital construction is that of accelerated expansion of the basic industrial plants. During the current Five Year Plan, the share of capital investment in industry will be 55 per cent of total capital investment in the national economy, as against 49.6 per cent during the Three Year Plan. And capital investments in heavy industry will attain approximately 83 per cent of the total capital investment in industry. In the search for new sources of accumulation, exceedingly great importance attaches to increasing the productivity of labor, maximum expansion of production on the basis of the available productive capacities without further capital investment, and greater economies. In 1957-61, labor productivity in industry is to rise by 65 per cent, and in construction, by 52 per cent. During the First Five Year Plan, 63 per cent of the rise in industrial production will come from increase in productivity of labor, as against 58 per cent during the preceding Three Year Plan.

Realization of the socialist industrialization of the Korean Peoples Democratic Republic will lead to a rapid increase in the number of the working class, a rise in its political consciousness. During the First Five Year Plan, the number of workers and office workers in all branches of the national economy will rise by 300,000 to attain over 1,130,000 in 1961.

Great attention is given in the Republic to the training and improvement of the skills of engineering and technical personnel. During the Three Year Plan, about 12,000 highly skilled specialists were trained in the higher educational institutions, the technical high schools, and the enterprise of the Republic; and also in the educational institutions an the enterprises of the socialist countries. During the Firs Five Year Plan, another 100,000 specialists will be traine to serve in the national economy of the Korean Peoples Democratic Republic.

The economic and scientific and engineering collaboration of the Republic with other countries in the socialist camp will play an enormous role in the successful fulfillment of the objectives of the First Five Year Plan for the development of the national economy of the Korean People Democratic Republic. During the Five Year Plan, this collaboration will rise to a new and higher level. As we know the socialist countries have now proceeded to coordinate their long range economic plans in the most important spheres, with the object of a more rational utilization of the economic resources and productive capacities in the in terests of each country and of the socialist camp as a whol The development of the national economy of the Korean Pe ples Democratic Republic, which is a component of the wor system of socialism, will proceed with due consideration of th socialist international division of labor, specialization and co operation in production among the countries of the socialist ca

The working people of the Korean Peoples Democratic R public are successfully realizing a manificent program of creation of the economic foundations of socialism in the country. An enormous upsurge in work and politics is bein observed in all spheres of economic upbuilding. This is borne witness to in particular by the over-fulfillment of th National Economic Plan for 1957. The volume of gross pr duction of government and cooperative industry increased 1957 by 44 per cent over 1956 and, in the first half of 1958 it was 134 per cent of the level of the comparable period i 1957. Successful fulfillment of planned objectives during th first years of the Five Year Plan is an assurance of the fa that the objectives of the First Five Year Plan as a whole will be met ahead of time.

With the realization of the program of socialist upbuildi proposed by the Korean Party of Labor, the Korean People Democratic Republic will, in a historically brief period, at tain the level of a developed industrial and agrarian socialist state. Socialist industrialization of the Republic will raise the living standards of the people to an even greater degree, and will result in political and economic strengthe ing of North Korea as it proceeds along the road to socialism. Victories in the building of socialism in North Korea are, at the same time, a most powerful force inspiring the population of the southern part of Korea to revolutionary strug

I. Notkin:

bout the Commentaries of Dr. Walter Hildebrandt

A compendium titled “Heavy Industry of the Soviet Union Development and Problems” has been published in the erman Federal Republic. The publication of works devoted to e USSR can only be welcomed if they provide an objective lfection of the true course of the Soviet economy. Unfor- nately, the papers and articles of Soviet authors included the symposium to which we refer are preceded by the mmentaries of Dr. Walter Hildebrandt in the form of an troduction providing an erroneous characterization of the sence of the Soviet economy. It is actually depicted as an ssemblage of unresolved contradictions, difficulties and onfused compromises.” In trying to give his commen- ries an “objective” nature, the author also speaks of the ccesses in the industrial development of the USSR. This lse objectivity may confuse some foreign readers. In order restore the truth, it is necessary, however briefly, to “pro- de commentaries” on the commentaries of W. Hildebrandt.

W. Hildebrandt engages in a detailed examination of the otivations for the industrialization of the USSR. He at- mpts to prove that the main content of this industrializa- on consists of an increase in the military power of the So- et Union, and that the struggle to resolve the main eco- mic task of the USSR is related to aggressive aims. Does is assertion by Dr. Hildebrandt correspond to reality?

It goes without saying that, with due consideration of the ternational situation, the Soviet people has been compelled strengthen its country's ability to defend itself. This is t the main content of the industrial development of the SSR at all. Its main object is the all-round elevation of the cialist economy and improvement of the life of the people. e October socialist revolution awakened enormous mate- al and cultural needs in the broadest elements of the popu- tion, capable of being satisfied only under conditions of a pid rise in production, and of technological progress erein. The development in the Soviet Union of all modern rms of industry, and all forms of modern transportation satisfy civilian needs, testifies to the peaceful nature of e industrial development of the USSR. All who have been the Soviet Union have been in a position to convince them- lves that the Soviet economy is not a one-sided develop- ent of a war economy. The author himself adduces data to e effect that in the period from 1928 to 1955, the industrial oduction of consumer goods in the USSR increased virtual- ninefold. He is also compelled to acknowledge that “increase the production of tractors, combines and binders, along with e increased production of other agricultural machinery, are the top of the production program of Soviet industry.”

W. Hildebrandt considers one of the motives of Soviet in- strialization to be the effort “to limit the position of the asants” in the economy of the USSR.

We know that all industrialization means not only a devel- ment of large-scale industry, but a conversion of an rarian country into a developed industrial, or industrial d agrarian, country. As a result of industrialization, the are of the non-agricultural population of the country as a ole increases. As a result of the socialist industrializa- n of the USSR, 44 per cent of the gainfully employed popu- ion was engaged in industry, construction, transportation, mmunications, and other non-agricultural fields, as early as 1937;* while, in 1956, this percentage was 57 per cent; and in 1913, the percentage of persons engaged in non-agricultural occupations was 25 percent of the whole.

If “limitations of the position of the peasantry” is taken to mean the quantitative growth of the urban and of the non-agricultural population as a whole, resulting, to a considerable degree, from the movement of people, including those directly engaged in agriculture, away from the villages, this is beyond question one of the distinguishing characteristics of industrialization. However, in speaking of Soviet industrialization, W. Hildebrandt has something else in mind. He regards the technical construction of agriculture in the USSR as a means of inserting into the countryside a “new industrial element” (by means of the machine and tractor stations, and sending specialists and workers to the countryside) to replace the peasantry, which, in his opinion, “in its majority still does not consist of supporters of the political regime.”

This assertion by W. Hildebrandt shows that he is distorting the essence of the industrialization of the USSR. Socialist industrialization did not consist of a simple continuation and completion of the capitalist industrialization of pre-revolutionary Russia. Socialist industrialization has its own economic content. It is called upon to provide the material basis for socialism both in the city and in the countryside. The leading role of the working class is strengthened as a result of socialist industrialization. But the working class uses its leading position in society not against the working peasantry, but to bring the latter closer to collective socialist labor and, on the basis thereof, to raise its well-being and culture. In the countryside there has appeared a large number of people with specialized education received in the cities: machine operators, trained in various courses, who are, to use the language of Dr. Hildebrandt, an “industrial element.” Thus 291,000 persons with higher and middle-specialized education were employed in the machine and tractor stations and collective farms alone according to data for December 1, 1956. The number of tractor drivers, team leaders, and assistant leaders of tractor teams, harvester combine operators and truck drivers of machine and tractor stations constituted 1,696,000 persons as of July 1, 1956. Virtually all of them had come from the peasantry.

Can one consider the conversion of the peasantry to workers engaged in mechanized labor, many of whom have been given specialized technical middle and higher education, to be a “limitation of the position of the peasantry”? Is it not clear that the position of the peasantry would be limited indeed if access to higher skills and to transformation into peasantry of a new type had been barred to it?

The unjustifiability of assertions about “limitations of the position of the peasantry” is also indicated by the fact that at the present time virtually all the machine equipment of the reorganized machine and tractor stations has been turned over to, or is being turned over to, the collective farms.

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* It should be noted that W. Hildebrandt unjustifiably identifies as industrialization the industrial development of the USSR for the entire period starting with the reconstruction of the economy after the Civil War up to the present day. The fact is that industrialization was a specific stage in the development of country, to wit, the period of transformation thereof from an agrarian to an industrial country. This qualitative leap was made by the USSR in the pre-war years.

As far as the political sentiments of the peasantry are concerned, the author is exceedingly bold in expressing his views about them from so great a distance from our country. It is in place to note that the Hitlerites placed great hopes on the dissatisfaction of the Soviet peasants with “the political regime” of the Soviet Union. But it is known that they were routed by the Soviet Army, the soldiers of which were collective farmers in the majority. The Soviet peasants also fought against the Hitlerites in the partisan groups that developed in the temporarily-occupied territory of our country.

W. Hildebrandt holds that a class differentiation of society is developing in the USSR on the basis of its industrial development, and that a new “middle estate,” an industrial and technical intelligentsia, the material interests of which allegedly find expression in the policy of industrialization, is coming into being. Does this assertion by the author correspond to reality?

The industrial development of the USSR, and its technical progress, naturally result in an increase in the number of engineering and technical personnel, and an increase in their role in production. In 1932, the share of engineering and technical personnel in the total number of workers and office workers of the industry of the USSR, constituted five per cent, and in 1956, nine per cent. But the engineers and technicians, like the workers, are engaged in enterprises belonging to the people as a whole, and not to individuals and to monopolies. Their labor serves the interests of society as a whole, and their share in the social fund for consumption is received in accordance with their skills and the work they perform. No special caste or class interests contradictory to the interests of the people as a whole are peculiar to the industrial and technical intelligentsia of the USSR. Not only the intelligentsia but the entire working class and collective farm peasantry have a material interest in the industrial development of the USSR. The well being of Soviet society as a whole depends upon the industrial strength of the country, and upon the level of development of agriculture. Is it not clear that statements to the effect that some kind of new “middle estate” with special interests constituting allegedly one of the stimuli to industrial development lack any basis whatever?

W. Hildebrandt further develops the “idea” that the concept of the destruction of the contradiction between physical and mental labor in the process of the building of communism is merely an ideological cloak masking the development of the new “middle estate.” The author’s assertion is in contradiction with reality. The rise in the proportion of persons doing skilled and highly skilled labor in the total number of workers in industry and other branches of the economy, the overall increase in the level of skill of the workers, compulsory middle education, the broad development of middle and higher education, all these are conditions for the gradual overcoming to the existing differences between workers in physical and mental labor. What is happening in the USSR in the process of the building of communism is not the birth of some new “middle estate,” but the gradual elimination of class and other social distinctions still in existence because of the inadequate level of development of the forces of production. Technical progress, and automation in particular lead to the result that the workers of production will become to an increasing degree workers of mental labor, organizing and controlling the processes of production. That which Mr. Hildebrandt describes as an ideological “cloak” is in complete accord with the objecti course of economic development of the USSR.

In addition to the growth of the productive forces, the raising of the level of skill of the working people and thei gradual conversion into workers of engineering and technical labor, the differences in the payment of labor relate to differences in skills will doubtless also diminish. To t degree that the productivity of labor and the increase in t riches of Soviet socialist society increase, there will be increase in the level both of the average, and of the minimum payment to labor, the pension scale, and all kinds o free services to all strata of the population will become greater and greater. Thus, not a strengthening of social differences between people, but gradual and final overcon ing thereof: This is the law of development of socialist s ciety on the road to complete communism.

W. Hildebrandt regards this interpretation of the socia consequences of modern technical progress under socialism as “bold and hasty to say the very least.” “More,” h writes, “it may be regarded as a cynical application of the dialectic, in that changes in the social order explained by technical novelties and the organizational principles of th industries of the western ‘capitalist’ industrial states, an particularly of the USA, are cited as examples of progres attained on the road to the promised final stage of commu nism.”

One should not of course deny that under capitalism, to the automation of production calls forth a need for specif types of skilled labor, and that as a result of technical pr ress, the proportion of engineering and technical personn increases in capitalist industry as well. The data of the American census of industry confirms this progress. Ho ever, it is easy to understand without “a cynical application of the dialectic” that the effects of identical factors c play a number of distinctive features in different social c cumstances. This is known to every economist and socio ogist whose world is scientifically grounded. One of the s cial features of dialectical, as distinct from metaphysica thinking, is the very fact that it embraces phenomena in their interrelations and peculiarities. Mr. Hildebrandt hi self could hardly deny that modern large-scale industry serves, under certain circumstances, to extract super profits by the monopolies, and under others, to meet soci needs.

The productive forces of today, automated production i particular, call forth the need to increase the skills and t cultural level of the workers, and enlarge the function of engineering and technical personnel as they develop. Thi is the fundamental tendency, and it overrides the tendenc to simplification of individual operations. If not for this fundamental tendency which determines the character of contemporary productive forces, it would be impossible pose as a realistic objective the overcoming of the exist differences between physical and mental labor. But while one social structure is capable of being an obstacle on th path of the all-round development and utilization of this tendency, another social structure, on the contrary, is ab to facilitate the all-sided development and utilization thereof.

In its striving to satisfy the needs of the working peopl better and more completely, socialist society assures co tinuing technical progress. The system of secondary edu tion embraces the entire younger generation. Millions of people are drawn into the system of specialized educatio The socialist structure eliminates by its very nature the cial consequences involved in automation of production u der capitalism: the acquisition by monopolies of all the p its of this process, increase in unemployment, etc. Soci

society employs the possibilities of reduction in working
ne to provide for cultural improvement of the people, and
kes use of the possibilities of expansion of production to
ise the material living standard. Under socialism, unin-
rrupted technical progress and realization of the progres-
ve tendencies in changes in the level of skill become pos-
ole specifically because it is threatened neither by a con-
riction of the market nor by unemployment. The postulate
complete utilization under socialism of the tendency to
adual conversion of all personnel of production into engi-
ering and technical personnel does not contain even a
ain of a "cynical application of the dialectic." This is the
ie dialectic of history.

From the foregoing it is not difficult to conclude that the
ie driving force in the industrial development of the USSR
not plans for aggression, not an effort to "limit the posi-
ns of the peasantry," and not the interest of a new "mid-
e estate," but the increase in the well-being of all mem-
rs of socialist society, the attainment of a living standard
the people hitherto unknown in history, and movement
ward communism. The Soviet Union cannot be measured
a capitalist yardstick. The victory of a new social order
our country has posed new problems of development in
ciety, the solution of which requires maximum utilization
all the possibilities inherent in modern forces of produc-
on. Unless this be taken into consideration, it is impos-
ole to understand anything whatever about the nature of the
velopment of the Soviet economy. W. Hildebrandt has
early ignored obvious facts, and as a result has given his
aders a distorted concept of the causes, conditions and
jectives of industrial development in the USSR.

The second portion of the general introduction by W. Hil-
brant is devoted to the development of industry in the
SSR. Here he adduces data from Soviet statistics and facts
stifying to the success of the Soviet Union in the expansion
the old and development of new branches of industry in the
nstruction of new industrial centers and in the training of
rsonnel in labor and technology.

In describing the rate of industrialization of the USSR,
Hildebrandt writes: "It remains a fact that the industrial
tential of the Soviet Union has multiplied many-fold during
e three past decades, and has attained dimensions no long-
comparable with those of the end of the twenties, i.e., the
vel at the beginning of the period of forced industrializa-
on." The high rates of industrial development of the USSR
e so well established a fact that even among the bourgeois
atisticians and economists who strive in every way to de-
grate the successes of the USSR there are ever fewer peo-
e who permit themselves not to take note of this. How-
er, in the economic literature of the capitalist countries
forts are still made to show that these high rates are in
me way not related to the socialist system and that they
re also characteristic of capitalism during specific
ages of its development. W. Hildebrandt also pays some
mage to this viewpoint in his assertion that "the rates of
velopment of industry during the Five Year Plans are en-
ely comparable to those during the early phases of de-
lopment, and the period of 'bubble company mania' of west
ropean, North American and Japanese industry." The fact
however, that Russia went through the "early phase of de-
opment" and the "bubble company mania" long before the
tober revolution. The level of industrial production in the
SR, even in the period of socialist industrialization, can-
be compared to the level of industrial development dur-
the early phase of large-scale capitalist industry.
vertheless, the rates of increase in industrial production
he USSR were higher than in the capitalist countries dur-
the early stages of their development. German industry developed comparatively rapidly during a 30-year period (1841-1870) in which it increased its volume approximately threefold. But Soviet industry increased its volume approximately 25 times during the 30-year period, 1928-1957. A maximum annual average increase in industrial production during the era from 1860-1913 was attained by the USA in the decade 1881-1890 and by Russia in the decade 1891-1900. These maximum rates of increase were 8.5%. But these rates were exceptional even during the period of upsurge of capitalism. The average annual rates of industrial production during the industrial cycles of 1860-1913 usually fluctuated: in the USA, between 3 and 5 per cent; in Britain, between 1.5 and 2.5 per cent; in Germany, between 2.5 and 5 percent; in France, between 1.5 and 2.5 percent; and in Russia, between 3 and 5 percent.

In the USSR during the First Five Year Plan, the average annual rate of increase of gross production of industry was 19.2 percent; and during the Second Five Year Plan, 17.4 percent, or in other words considerably in excess of the maximum rates that held for industry in the period before the onset of the general crisis of capitalism.

Facts are stubborn things. W. Hildebrandt is therefore compelled to recognize that in terms of rates of increase of industrial production, the USSR in the period of the prewar Five Year Plans exceeded the capitalist countries during any period of industrial development. However, he makes the following qualification: "An economy controlled by edict, and on the possibility of employment of the experience and the inventions of other industrial countries, make it possible to attain considerably higher rates of development during given periods and in certain leading branches of industry" than during the early phases of capitalist industry.

In the first place it should be noted that employment of foreign experience, which certainly played some role in the industrial development of the USSR, is a factor by no means limited to us. All newly-capitalist countries, as they entered the high road of industrialization, made use of the technical experience of older industrialized countries. Despite this fact, their rates of industrial development were lower than those of the USSR. Moreover, it must be borne in mind that socialist industrialization, the triumphs of Soviet science, and the creation of a numerous body of technical personnel, have long since made it possible for the Soviet Union to develop its economy chiefly on the basis of its own technical experience. As far as "economies governed by edict" are concerned (this is one of the causes in W. Hildebrandt's opinion for the high rate of development of certain branches of industry in the USSR), the author does not decipher his concept of this term. It is possible that he chooses to designate planned socialist economy in this way. But the socialist character of the economy in the USSR is not one of the causes, but the decisive cause of the substantially higher rate of development of all of the industry of the USSR (and not only of certain branches thereof), relative to the industry of the capitalist countries. The substitution of publicly-owned socialist property for private property substantially accelerates the development of modern productive forces.

Under socialism, contradictions of expanded reproduction capable of solution only by a general constriction of production, such as exist under capitalism, are inconceivable.

The absence of crises under socialism, constituting its point of enormous superiority, is demonstrated by the entire history of economic upbuilding of the USSR and the lands of Peoples' Democracy. Let us adduce data on the dynamics of large-scale industrial production in the USSR and USA (in per cent of the preceding year):

Pre-War Period			Post-War Period		
Year	USSR	USA	Year	USSR	USA
1928	+18.9	+ 5.4	1947	+21.9	+10.9
1929	+19.6	+ 6.4	1948	+26.1	+ 2.8
1930	+22.1	-19.2	1949	+19.8	- 6.2
1931	+20.7	-15.6	1950	+22.8	+15.7
1932	+14.5	-21.1	1951	+16.3	+ 5.4
1933	+ 5.2	+18.9	1952	+11.5	+ 5.1
1934	+19.2	+ 3.7	1953	+11.7	+ 7.9
1935	+22.6	+13.5	1954	+13.3	- 6.6
1936	+28.7	+16.7	1955	+12.1	+10.5
1937	+11.1	+17.0	1956	+11.0	+ 2.8
1938	+11.7	-21.2	1957	+10.0	0

Both in the pre-war and the post-war period, the industrial production of the USSR increased systematically from year to year; while in the USA, in the period from 1928-1938, it dropped over a four-year period, and in the period from 1947-1957, it dropped over a two-year period (if we use annual figures, that is, if we exclude seasonal and other declines within the year).

The continuous expansion of production under socialism refutes many apologetic theories of capitalist reproduction and, in particular, the theory of crisis, of Aphthallion and others, in accordance with which crises of overproduction are inevitable in view of the uneven reproduction of basic capital. Socialist reproduction is also affected under conditions of large-scale machine production, but, nonetheless, it knows no crisis-type contractions of production.

W. Hildebrandt wrote his commentaries shortly after the publication of the plan for the expansion of the economy of the USSR in 1957. This plan provided for an expansion of the volume of industrial production in 1957 by 7.1 per cent, as against 11 per cent in 1956. W. Hildebrandt hastens to announce that this reduction in the rate of growth of industry expresses a "crisis" of the Soviet economy, and that the growth of industry in the USSR in 1957 is lower than in certain capitalist countries in 1955.

We know that, as a result of the reorganization of the administration of industry, and the discovery of new resources in various localities not foreseen in the plan, the increase in industrial production in the USSR in 1957 was not 7.1 per cent, but 10 per cent. And the rates of increase were higher than in any capitalist country in 1957.*

However, it should be stated that in single years, during its period of upswing, capitalist industry is capable of attaining relatively high rates of development. As a rule these high rates precede a sharp reduction in production during these phases of crises and depression. A correct concept of the rates of development of capitalist countries cannot be obtained if, out of the continuous sequence of development, a single and most favorable year such as 1955 was in certain capitalist countries, be selected. At the same time, concrete conditions cause the rates of industrial production in the socialist countries too, to vary. In certain years they are higher, in others they are lower. Therefore, comparison of the rates of economic development of the socialist and capitalist countries must be made for more or less lengthy periods, in the course of which the laws of expand reproduction in these countries are revealed.

In the period 1937-1956, industrial production in the USSR grew 5.1 times; in the United States, 2.3 times; in England, 1.5 times; in West Germany, 1.9 times; and in France, 1.7 times. Despite the fact that the USSR suffere enormous losses during the war, and the United States profited by the war, the rates of growth of industrial production in the USSR From 1937 to 1956 were higher by 2. times than the United States. They were still higher than the rates of increase of industrial production in England, West Germany and France, although in level of industrial production the USSR had long since left these countries be hind. The facts testify that, at all levels of development, the advantages of socialism inevitably find expression in higher rates of economic development of socialist countri than of capitalist. Declaring the relative reduction in the rate of expansion of industrial production in 1957 to be an expression of "a business crisis" in the Soviet economy, W. Hildebrandt indirectly, and contrary to his desires, acknowledges the advantages of socialism. For no one wi assert that a capitalist country is undergoing an economic crisis when its industrial production has risen 7.1%.

W. Hildebrandt goes to considerable effort to erect his "business crisis" in the Soviet economy, but is nonethele compelled to recognize that "the rate of development of S viet heavy industry is indubitably high and deserving of th greatest attention." At the same time, he tries to deprecate the significance of this fact, stating "But this tells u nothing about its level of development relative to the competing traditional industrial powers." W. Hildebrandt attempts to show that in the USSR, during the period after t 18th Congress of the Communist Party of the Soviet Unio (1939), no substantial successes were obtained in the solu tion of its main economic task due to the "dynamism" of capitalism. He writes: "If one considers the United State — and it is regarded as an example by the Soviets — one understands how far the USSR still is from its objective (solution of its main economic task — A. N.). The reason for this lies not so much in inadequate efforts on the part of the Soviet Union, as in the fact that the West and, in the first place, America, is also experiencing dynamic develo ment in the form of the so-called second industrial revolu tion. The Russians lag in many respects behind the headlong gallop of the world economy. This makes their successes in industry relative..."

W. Hildebrandt is exceedingly free in dealing with facts The USSR has as yet been unable to solve its chief economic task in the period subsequent to the 18th Congress of the Party primarily because it was attacked in 1941 by Hitlerite Germany. The war, we know, dealt enormous damage to the economy of our country. However, the econ omy of the United States experienced a military upsurge a this time and suffered no devastation due to the war. The American monopolies, growing rich out of the war, expan ed their production. In the USSR, the level of industrial p duction at the end of the war was lower than before the wa (in 1945 it was 92 per cent of 1940), while in the USA indu trial production more than doubled during the years of the Second World War thanks to a very considerable degree to enormous unutilized capacity available at the start of the war.

As far as the post-war period is concerned, any talk of a "gallop" of world capitalism and, in particular, Ame ican economy, lacks all foundation. Let us turn to the facts:

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* In the United States in 1957, industrial production remained at the level of 1956, and in 1958 it dropped significantly below that level; in Britain it increased by 2 per cent; in West Germany by 6 per cent; in France by 9 per cent; in Belgium and Luxembourg, it remained at the 1956 level, etc. (see The Review of the Economic Situation in Europe for 1957 by the United Nations, Geneva, 1958, 31 pp.)

Increase in Industrial Production in the Lands of Socialism and Capitalism
(Per Cent of 1950)

	1955	1957
Lands of Socialism	193	238
of which USSR	185	226
Lands of Capitalism	134	143
of which USA	124	127

he entire capitalist world increased its industrial produc- on by 43 per cent during the seven years from 1951-1957; hile the USSR increased its by 126 per cent.

As far as the "dynamism" of industrial American produc- on during the post-war period is concerned, the fact is at until 1953 its volume was at a level lower than e wartime maximum. In 1956, this maximum was xceeded by 13 per cent all told. And this despite e fact that, during the post-war years, the volume of pri- ate capital investments in manufacturing industry alone creased in the United States by 25 per cent relative to the ecord pre-war year of 1929, and doubled by comparison to e war years of 1940-44. The total contracts let for indus- ial construction rose from $905 million in 1937 and $766 illion in 1943 to $1,142,000,000 in 1950 and $1,918,000,000 1956. And the number of housing projects (excluding the rms) rose from 28,000 in 1937 and 15.9 thousand in 1943 93.2 thousand in 1956. From the end of 1945 to the end 1956, consumer credit increased by $46 billion and mort- age indebtedness by $95 billion. In accordance with the ata of the United Nations Statistical Annual for 1957, ex- orts by the United States for 1956 were about $19 billion s against a little more than $3 billion in 1938. In evaluat- g these data it is necessary to take into consideration the evaluation of the dollar during the war and post-war years. addition to these factors, the course of expanded repro- uction was influenced by the exceedingly important effect the militarization of the economy, without precedence in eacetime. Nevertheless, all these factors together, made the course of thirteen years for a relatively small in- rease in industrial production as compared to the wartime aximum. For the most part, they compensated for the re- uction in the military demands that had existed during the econd World War. Nevertheless, even after 1953 there was drop in American industrial production to below its war- me maximum. This occurred in 1954, and at the end of 957 and early 1958 as a new economic crisis got underway.

The industrial production of the USSR underwent an unin- errupted expansion starting in 1946. In 1957, it exceeded e level of 1945 by 4.2 times. As a result, the relationship etween the levels of industrial production in the USSR and the "traditional industrial countries" underwent a signifi- ant change in favor of the USSR. In 1957, the level of pro- uction in the Soviet Union exceeded the total level of Amer- an industrial production of 1937; and its share in world dustrial production today exceeds the share of England, est Germany and France combined. To attain the present vel of industrial production in the USA the Soviet Union s to double the output of industrial production while, in 37, to have done this would have meant a more than four- ld increase. Is it not to be considered a major victory on e part of our country, that despite the enormous damage ne by the war, it has attained these results in economic mpetition with the USA? We do not know the rates at ich American industry will develop in the future, but it y be stated with confidence that the industry of the USSR ll, because of the advantages of the socialist system of economy, continue in the future to develop considerably more rapidly than the industry of the United States. During the last four years, from 1953 when the industrial production of the USA for the first time exceeded the record wartime level, to 1957, the production of American industry increased by a total of seven percent. During the same period, Soviet industry increased its production by 55 per cent. Thus, during these last years, the rate of industrial development of the USSR exceeded that of the United States more than eight-fold. W. Hildebrandt is clearly misleading his readers when he says that the progress of the economic competition between the USSR and the USA is not turning out to favor the USSR.

When W. Hildebrandt speaks of the "dynamism" of capitalism, and the "lag" of the USSR, he has in mind not only the level of production, but the quality of processes occurring in industry. He ascribes particular importance to the shifts in the fuel and power consumption of the USA. The fact is that while prior to the First World War coal represented nine-tenths of all the production and consumption of mineral fuels in the USA, and in 1935-1939 it was 60 per cent, today coal provides only one-third, while two-thirds is represented by petroleum and natural gas. The situation is different in England and West Germany, which are importers of oil. In the fuel balance of these countries the share of coal is significantly higher than in the USA. This testifies to the dependence of the structure of the fuel balance upon the structure of the natural resources of fuel and the structure of the national economy as a whole. But there can be no doubt that the development of many forms of modern technology (particularly transportation, agriculture and military) involve significant shifts in the fuel balance. And countries having small oil resources or none at all are increasingly compelled to import it from abroad. The USSR possesses the most enormous resources of oil and gas. The opening of new oil fields in Tataria, Bashkiria, and other regions, and also of rich deposits of natural gas, and the increase in capital investments in these branches of the economy, have created the prerequisites for a rapid change in the structure of the fuel balance of the USSR. The output of oil and gas is rising in the USSR at rates considerably higher than in the United States. Thus in the period 1953-1957, the production of petroleum rose 16.8 percent in the USSR and 2.7 per cent in the USA; while the increase in natural gas correspondingly was 28.2 and 6.1 percent. The oil and gas industries will develop very much more rapidly than the coal industry in 1959-1965. As a result, the USSR will enjoy a high proportion of the cheapest types of fuels in its fuel balance. Experience shows that great possibilities exist for the reduction of the cost of coal itself by overall mechanization of mining, by the development of strip mining, etc. In the period ahead, the Soviet Union will record significant progress in economically efficient employment of new types of energy: atomic, and perhaps thermonuclear. There can be no doubt of the fact that in the matter of rationalization of the fuel and power balance, our country will prove to be no less "dynamic" than in other fields.

W. Hildebrandt expresses a doubt as to the ability of the USSR to carry out all-round mechanization and automation of production and to exceed the United States in this respect. He substantiates this by stating that, unlike the USA, the USSR does not possess the enormous resources of "unemployed capital" required for research and for all-round mechanization and automation of production. However, in this case as well, W. Hildebrandt ignores the advantages of socialism thanks to which the Soviet economy proceeds without the losses involved in crises and depressions in competition, and the enormous costs of circulation and of parasitic consumption. The absence of such losses makes it possible for the Soviet Union to accumulate a considerably larger percentage of its national income, than do the capitalist countries. This percentage was, in the post-war period, two-and-a-half times as high in the USSR as in the USA, with the result that the average annual absolute real accumulation in the USSR is considerably closer to the American in absolute value than is the total social product and the national income. The accumulations, and in part, the growing amortization fund of the USSR, make possible the realization of technical progress on the very largest scale. Capital investments planned for 1959-1965 will make for the realization of a broad program of all-round mechanization and automation of production. This will be attained not only due to the high share of the accumulation fund in the national income, and the successes of Soviet science and engineering, but also due to the systematic, steady rise in the demand for means of production and consumer goods. We know that steady mass production is the condition most favorable to automation of production. Expansion of the market and constant increase in the needs of society, as well as the shortening of the work day, make it possible for socialist society to effect automation without fearing unemployment. Thus, the USSR enjoys exceedingly favorable conditions for automation of production, and the doubts expressed by W. Hildebrandt are completely unfounded.

Equally unfounded is W. Hildebrandt's assertion that the effort of the Soviet Union to attain, in a brief period, fulfillment of an extensive program of technical advancement, will inevitably lead to a reduction in the living standard of the people. In the economic literature of the capitalist countries for recent years, one often encounters declarations to the effect that the USSR faces a dilemma either to develop its technology or to raise the living standard of the people. In advancing this dilemma, bourgeois economists forget that the USSR at the present time is a very powerful industrial country that has left far behind such "traditional industrial countries" as England, West Germany and France. The resources of our country make it possible to carry out not only an enormous program of capital construction, an upsurge of the technical level of production, but also to solve the problems of increasing consumption by the people to a scale substantially larger than at any previous time. It is no accident that the USSR, simultaneous with measures to develop technology, is carrying out a sharp increase in agriculture, a broad program of housing construction, and an expansion of branches of industry producing consumer goods. Complex mechanization and automation of production, constituting a means for substantial increase in the productivity of labor and rapid expansion of production will make possible, in the future as well, a further acceleration of consumption by the people. The point of the matter is not the solution of artificially-concocted dilemmas, but the determination of the proportion between growth of accumulation and consumption optimum for each given period.

It is understood that the development of the economy of the Soviet Union faces definite difficulties. We have branches of our economy that are backward, and there is a certain degree of strain in certain branches of the national economy, while a number of economic problems have not yet found solution. However, neither in character nor in scale can these difficulties be compared with the fundamental contradictions of capitalism which undermine the "dynamism" of the capitalist economy and in the final analysis condemn it to defeat in its competition with the socialist system.

In his analysis of the development of the socialist economy, W. Hildebrandt attempts to draw an analogy between the development of capitalist and socialist economy. The first period of industrial development of the USSR he compares to the development of "early capitalism," with its protectionism, "bubble companies," the development of inflated and unprofitable enterprises at the expense of the state and the stockholders, etc. The second period of industrial development of the Soviet Union is compared by him to the "maturing" of the industrial economy of capitalism. But it is known that historical analogies are not a means o scientific cognition when the matter at issue concerns fund mentally different historic phenomena and epochs. Such analogies ignore specific historical and, what is most important, fundamental, differences in these phenomena and epochs. The coming into being and development of the socialist system of economy is occuring at an incomparably higher level of development of productive forces than the development of the capitalist system, under different economic conditions and organizational forms of production. That which was progressive in the period of "early capitalism," or the "maturing" industrial economy of capitalism, is obviously inapplicable and tends to inhibit development of productive forces at their present level. The matter at issue is a new society, which develops in accordance with its own laws and has its own objectives and motive forces. Therefore, W. Hildebrandt's analogy gives the reader nothing in the way of understanding of the essence of the development of the Soviet economy.

The author of the commentaries holds that in the first stage of the forced industrialization of the USSR, politics overrode economics, and the economics of production suffered for the purpose of attaining political objectives. Thi assertion by W. Hildebrandt reveals his failure to understand the true relationship between politics and economics in the development of society as a whole, and of the Soviet society in particular.

The policy of a government represents a concentrated e pression of the economic interests of the ruling class abov all. The policy of the Soviet government expresses the fundamental economic interest of the working class and of the Soviet people as a whole. In the years of the pre-war Five Year Plan these interests lay essentially in assuring the building of socialism in the towns and villages by mea of socialist industrialization and the collectivization of agriculture. The policies of the Soviet government were a manifestation of economic necessity, and not of constraint against it as it postulated by W. Hildebrandt. Socialist industrialization and the collectivization of agriculture had, as their ultimate objective, to provide an enormous econo of social labor and an upswing in all branches of productio Without the development of heavy industry and a systemati saturation of the economy with modern equipment thereby, it is impossible to speak at all of production conducted at more economical and profitable level. True, not nearly al the enterprises in heavy industry built in the years of the prewar Five Year Plan produced profit immediately. And many of them existed on subsidies for a substantial perio But the operation of these enterprises created the conditio for a rise in labor productivity, for an increase in profitability, and for a growth in the fund of accumulations in the entire national economy. No analogy between these enterprises and the "bubble companies" of the period of John Law can properly be made. The majority of the enterpris built during the First and Second Five Year Plans became profitable after their operation was mastered, and many o them, such for example as the Magnitogorsk and Kuznetsk metallurgical complexes, are highly profitable today decades after their launching.

Of course, to overcome the age-long backwardness of a country, the absence of an adequate number of experience nd well-trained key personnel, and the underdeveloped conition of a number of areas and enterprises in the briefest eriod of time involved additional investment. All these osts were recouped with interest as a result of the triumph f socialist industrialization in the USSR. This found genralized expression in the high rate of development of inustry, and in the creation, even in the pre-war period, of a naterial basis for socialism in town and village. To see the haracteristic feature of the period of the First Five Year lan only in the fact that enterprises were running at a loss, nd not to see the significance of the newly-developed enterrises for expanded reproduction in the national economy as whole, means not to have a proper understanding of the reaons for the victories of socialist industrialization in the USSR, s Dr. Hildebrandt himself is compelled to acknowledge.

The distinctive aspect of the present stage of “maturing” f the industrial economy of the USSR is seen by the author f these commentaries in the fact that today a “dictatorship f objective necessity” may be observed, and that “the intersted groupings strive increasingly to take into consideraion a number of economic laws having nothing in common ith the principles of centralized administration of business, nd of a state economy of the Soviet type, but much more losely related to the requirements of an industrial econmy that is going through a complex process of maturing.” n this about-face toward the demands of “objective necesity,” W. Hildebrandt sees an expression of the ideology of he new “third estate,” which he and other bourgeois econmists have invented and conceive of as developing in the USSR.

There can be no arguing the fact that the new level of ecoomic development in the USSR, and the achievements in lanning at the national and lower levels, make it possible o operate the economy today more economically than beore. There can also be no question that the enormous rowth in the national economy of the USSR has required he reinforcement of the rights of local authorities in the adinistration of production.

However, W. Hildebrandt depicts the matter as though the neasures of the Party and the Soviet government to expand he rights of local authorities and to reinforce the economic fficiency of the economy is the result of a crisis in the soialist system of economy, which allegedly interferes with echnical progress, specialization of production, rhythmic perations, etc. The overcoming of this crisis allegedly reuires a transition from “a state economy of the Soviet ype” to the posture of a “maturing” economy analogous to he economies of the “traditional industrial countries.”

The reinforcement of the role of the localities in economic rogress is in no way contradictory to a “state economy of he Soviet type.” It does not signify the setting free of the andom forces of the market, and of competition. The develpment of the Soviet economy will continue to be guided by ational economic plans in the future. The matter at issue s not a retreat from socialist principles of planned economy, but of elevating planning to a higher level of ever greater coordination of leadership of the national economy, with local initiative in the discovery of and utilization of the resources of the Soviet economy and in determination of the quantitative and qualitative indices for the plans of development of individual enterprises, economic districts and republics. The advance to communism is indissolubly interrelated with a strengthening of the creative activity of the masses of the people. The expansion of the rights of the local authorities in planning and administering the economy does not weaken, but strengthens the centralized planned leadership by making it more specific. This makes possible a better utilization of local experience, of the experiences of the masses of the working people, and of their knowledge in the interests of the national economy as a whole. This is of major significance also because it creates important organizational conditions for overcoming shortcomings in the specialization and compensation of production related to the system of administration of the economy in accordance with branches of industry.

It hardly needs to be proved that “a state economy of the Soviet type” does not stand in contradiction to an intensified effort to secure profitable operation of enterprises, and to improve their economic efficiency. The socialist planned system of economy does not distribute means of production and labor between its branches and regions through the anarchic mechanism of change in standards of profit. However, increase in the profitability of production as the result of economies in the resources of labor and material goods plays an exceptionally important role in assuring high rates of expanded socialist reproduction and an upsurge in the well-being of the people. Therefore socialist society fights for improvement in the profitability of its enterprises. The very posing of the question: either a “state economy of the Soviet type” or profitability of production, is completely unfounded. If individual enterprises operate at a loss, this is in no way a consequence of the fact that the Soviet economy is a planned economy. On the contrary, a planned economy to which competition, crises and depressions are foreign, one making possible rational utilization of the material and labor resources of society, is a powerful factor for savings in the economy as a whole, and at the various individual socialist enterprises.

Equally lacking in foundation is the “idea” of W. Hildebrandt to the effect that the increased attention to the economic efficiency of production expresses the ideology of the specialists and the industrial and technical intelligentsia. Under the conditions of social property in the means of production, society as a whole is interested in saving living and socialized labor.

Thus, examination of a number of the fundamental propositions of Dr. W. Hildebrandt shows that he does not give the reader a correct comprehension of the essence of the Soviet economy and the tendencies of development therein.

Economic Problems of Building Communism

AT A SCIENTIFIC MEETING OF THE SOCIAL SCIENCES DEPARTMENTS OF THE USSR ACADEMY OF SCIENCES

A scientific meeting of the Social Sciences Departments of the USSR Academy of Sciences, devoted to theoretical problems of the building of communism, was held in Moscow in June 1958. The session heard nine papers on various branches of the social sciences (economics, philosophy, law, literary criticism, etc.). Twenty-six persons participated in the discussion.

In view of the area of interest of this magazine, the editors devote the present review chiefly to the economic problems discussed at the session.

In his opening remarks, the vice-president of the USSR Academy of Sciences, A. V. Topchiev, stated that the resolutions of the 20th Congress of the Communist Party of the Soviet Union and of the subsequent plenums of the Central Committee of our Party, the reorganization of administration of industry and construction, the system of measures taken to develop the collective farms and to reorganize the machine and tractor stations, the elevation of the function of the trade unions in the administration of production, the development of democracy and creativity on the part of the working people, the decision to speed the development of synthetics and of the chemical industry as a whole, the development of long-range plans for upbuilding of the national economy of the USSR, and the coordination of the plans of development of the economies of the socialist countries mark a new stage in the building of communism. This stage opens the broadest possibilities for further mighty growth of the productive forces, for improvement of socialist relationships of production, and for a creative development of the Marxist-Leninist theory of the building of a communist society. All this places before workers in science the problem of active elaboration of theoretical problems directly related to the realization in our country of the transition from socialism to communism.

Marxism is intimately related to practice and is continually enriched thereby. Scientists face many problems requiring further creative elaboration. Comrade Topchiev noted such problems as the directions to be taken for the most efficient development of the forces of production, the accelerated solution of the main economic problem of the USSR, methods of determining the economic efficiency of the latest progressive tendencies in technology, questions having to do with specialization and coordination of enterprises, methods of raising collective farm property to the level of national public property, further improvement of socialist relations in production, etc. Important theoretical problems arise from the fact that socialism is today a world system. Soviet social science also faces the problem of studying the basic tendencies and specific forms of development of the economics and politics of the capitalist countries. In solving a number of specific problems of the upbuilding of communism, our Party, at the same time, presented an example of the creative development of theory. As pointed out by Comrade N. S. Khrushchev, problems of the practice of communist upbuilding are both practical and theoretical in nature. They are posed and resolved in the courge of the di rect struggle of the people for the realization, in life, of the policy of the Communist Party. The collective experi ence of the struggle of the masses, generalized and synth sized in the policy of the Party, is creative Marxism. Ba themselves on the resolutions of the Party, the scientific search institutes in the social sciences have carried out number of valuable studies on important questions of Mar ist-Leninist theory and the upbuilding of communism. Th subject matter of scientific research has come to be bett related to reality. Creative discussions are more freque However, Academician Topchiev observed, in academic i tutions the social sciences still lag seriously behind the practice of the upbuilding of communism and the requirements placed before them by the Party. Until recently, t social sciences did not occupy the place they should have either in the structure of the USSR Academy of Sciences in the Academies of the various republics. It is necessar to bend all efforts to elevate the role and significance of social sciences, to stimulate the activity of institutions i the humanities and of their scientific personnel in the cre tive development of the problems of Marxist-Leninist the on the basis of generalization of the practical experience economic and cultural upbuilding.

The Presidium of the USSR Academy of Sciences, said Academician A. V. Topchiev, will give all aid to the deve ment of scientific research work in the field of the social sciences.

The present session should facilitate the development a truly creative atmosphere in the institutes within the so cial science departments, should make for a reinforceme of and development of the creative cooperation of scienti in the various specialties in the humanities, and should a organize cooperation between scientists working in the fi of social and natural sciences. Creative cooperation of s entists of various specialties is a necessary condition fo the active elaboration of theoretical problems having to d with determination of the most efficient courses and met to be pursued in the development of the forces of product and in the elaboration of problems of the gradual transit to communism.

Academician K. V. Ostrovitianov read a paper titled: "Theoretical Problems of the Development of Communis in the USSR, and the Responsibilities of the Social Sciences." In the resolutions of the 20th Congress of the Co munist Party of the Soviet Union and the subsequent plenums of the Central Committee of the Party, a broad pro gram for the upbuilding of communism in the USSR is developed. These resolutions represent the further creativ development and concretization of Marxist-Leninist view on communism. The upbuilding of a communist society i our country is the immediate practical objective of the work of the Soviet people, and their leading force, the Co munist Party.

Communism can be built on the basis of an exceptional igh level of productive forces, assuring an abundance of roducts for all members of society. The rapid developnent of the natural sciences, and the technical progress elated thereto, create the possibility of rapid upsurge in he productivity of labor, and the creation, in an historically short period, of the material and technological bases for ommunism. Dwelling on the major trends in technical rogress at the present time (electrification of the country s a whole combined with wide employment of atomic energy, pplication of chemistry to the national economy, all-round utomation and mechanization of production), K. V. Ostroviianov emphasized that socialist relations of production pened the broadest scope for continuous development of the rocess of production at a rate unprecedented in history. The rapid growth of the forces in production, in turn, call orth the necessity for further development of, and perfecion of, the relationships of production. As the development f the socialist method of production proceeds, it is found hat one or another aspect of the relationships of production, istribution and circulation, or form of administration of roduction, outlives its usefulness, ceases to correspond to he level and maturing requirements of further growth of he productive forces, and the need to eliminate this inongruity develops. The great superiority of socialism lies in the fact that social ownership of the means of production ermits the development of the forces and relationships of roduction in socialist society to proceed by conscious plan, and permits guidance of the upbuilding of communism on the asis of recognition of the objective laws of social development. Marxism-Leninism, which is the most progressive theory and a truly scientific one, arms the builders of communism with a knowledge of these laws. The non-antagonistic contradictions developing between the productive forces and the relationships of production are recognized by society and eliminated in the course of the planned guidance f the process of social development.

Proceeding to a concrete analysis of the further development of the production relationships on the road to communism, Academician Ostrovitianov paused to deal primarily with property relationships. He pointed to the significant differences between state property under socialism, and the communist property of the future. State public property is the property of the people, and the people consist of two classes: the working class and the collective farm peasantry; this being due to the two forms of socialist property in the stage of socialism. The communist form of public property represents the outliving of the differences between the two forms of socialist property and of the differences between the working class and the peasantry resulting therefrom.

The course of transformation of the state form of public property to the communist form is outlined more clearly in the light of the most recent resolutions of the Communist Party and the Soviet government on reorganization of the administration of industry and construction, and on elevating he role of the trade unions and of the broad masses of the eople in the administration of production. As was foreseen y V. I. Lenin, as the transition to communism proceeds the urely administrative functions of the government in the administration of the national economy are restricted and the ignificance of economic bodies such as the national economic councils rises. Ever broader masses of the working eople are being involved in the administration of the government and of production. In this connection, a number of ields of social activity previously engaged in by organs f government are gradually being taken over by the trade nions and other public organizations of the working people.

Cooperative and collective farm property should pass through a determinate course of socialization of production, so as to rise first to the level already now attained by government-administered public property, and later to the level of the communist form of public property. An important stage in this development is marked by the historic resolutions of the February Plenum of the Central Committee of the Communist Party of the Soviet Union on the further development of the collective farm system and the reorganization of the machine and tractor stations. The constant growth in the productive forces, and the application on the collective farms of all the achievements of science and technology, will serve as a basis for collective farm production becoming general public socialist production in the future. And collective farm labor will be increasingly transformed into a variety of industrial labor, while cooperative and collective farm property will be converted to general public property.

The transformation of collective farm and cooperative property to general public property is performed, primarily, along the lines of quantitative growth and change in the social content and structure of the non-divisible funds of the collective farms. The non-divisible funds are employed for construction both of productive units and of cultural and service institutions; kindergartens, schools, boarding schools, hospitals, rest homes, etc., hitherto built at government expense. Various forms of inter-collective farm property, the building of electric power plants, paved highways, processing enterprises, etc., with the resources of several collective farms working cooperatively, are attaining wide development. In addition thereto, mixed enterprises created by the funds of the government and collective farms together, such as drainage and irrigation projects, are coming into being. These trends will grow stronger as collective farm production rises.

As the socialized economy of the collective farms improves and an abundance of agricultural products is produced, and social forms of means of meeting the needs of everyday life on the part of collective farmers and members of their families are created, the personal plots of the collective farm family wil become economically unprofitable and will gradually disappear.

As a result of these processes, occurring both in the city and in the collective farm countryside, the existing differences between town and village will be outlived, as will those between the two forms of socialist property. And the dividing line between the working class and the peasantry will gradually be wiped out, until a transition to a classless communist society has been completed: a society based on a single form of communist ownership of the means of production.

An important theoretical problem of the gradual transition from socialism to communism, the speaker continued, is that of the role and future of commodity and monetary relationships. As a result of the economics discussion of 1951, the majority of economists came to agreement that the reason for commodity production and circulation has to be sought in the forms of ownership of the means of production and products of labor existing in socialist society. In the light of the latest resolutions of the Party on problems of development of the collective farm structure and on reorganization of the machine and tractor stations, it becomes clear that cooperative and collective farm property is capable of growing into a communist form of national property without becoming government property. This is a new substantiation of the accuracy of the explanation of commodity production on the basis of the forms of property in the socialist stage.

In recent years, the idea that commodity production is incompatible with the prospects of transition from socialism to communism has attained wide currency. Such a posing of the question is inaccurate. The dialectics of the development of socialist economy lies precisely in the fact that the dying-out of commodity production and the circulation of money in the higher phase of communism will be arrived at as the result of the all-round development of commodity and monetary relationships in the socialist stage of development.

The realization of the grandiose program outlined by the Party for the solution in the briefest historical period of the basic economic problem of the USSR, and the creation of a material and technological basis for communism, requires the broadest employment of the law of value to stimulate socialist production. The problem of introduction of cost accounting into collective farm production has been posed with utmost sharpness. The elimination, in accordance with the resolution of the June 1958 Plenum of the Communist Party of the Soviet Union, of the multiple system of prices, and transition to a single scale of prices differentiated by regions and zones will play a major role in stimulating collective farm production, and will make for an elevation of the material self-interestedness of the collective farms and collective farmers in increasing the production of agricultural products.

Tendencies to calculate the labor of collective farmers in the social portion of the economy in monetary form have become ever clearer in collective farm practice. The proportion of payment for labor days in kind is diminishing, relative to the share of monetary payments. Many collective farms are instituting monthly advances. Individual collective farms have already converted to a new guaranteed monthly monetary payment for work done, and this calls forth the need for new forms of rate setting and evaluation of work performed. All this tends to bring cooperative and collective farm property closer into line with government property.

The rising role of the law of value and of the commodity and monetary categories related thereto in the period of transition to communism, does not at all mean a rejection of centralized planning of prices or the conversion of the law of value into a regulator of the distribution of means of production and labor among the branches of the national economy. Ideas such as these, which have achieved wide currency among Yugoslav and certain other foreign economists, would signify unleashing spontaneity with all the consequences inherent therein, and represent a revision of the Marxist-Leninist concept of the laws of socialism.

Treating of the prospects for the dying out of commodity and monetary relationships in the higher stage of communism, Comrade Ostrovitianov expressed the thought that commodity and monetary relationships might possibly, for a given period of time, be retained even in countries that had essentially completed the transition to communism. The need for their retention will arise out of the interrelationship between the communist form of property and socialist forms of property existing in the countries of the world system of socialism; and also out of economic relations with countries in the world capitalist system.

K. V. Ostrovitianov proceeded then to the problem of overcoming the existing differences between mental and physical labor. As a result of the new technical revolution underway, conditions for further socialization of labor and for fundamental changes in the nature of the functions of the participants in production have been created. The workers' labor is, in ever-increasing degree, coming to depend upon employment of various methods of automatic operation and control, upon scientific knowledge and new technology, and is increasingly being converted to scientific and engineering activity.

The classical Marxist-Leninist writers placed enormous stress in the solution of this problem on improving the living standard of the working people, and shortening the work day. The development of remote control and electronics, and the ever-increasing utilization of automation of production, makes it possible to foresee a reduction of the work day in industry by approximately half.

One of the essential prerequisites for the transition to communism is that the conversion of labor come to be regarded as the primary necessity of life, and the realizatio of the communist principle: "From each according to his abilities, to each according to his needs." V. I. Lenin wrot "From capitalism, mankind can proceed directly only to socialism, i.e., to public ownership of the means of production and distribution of the products in accordance with the labor contributed by each. Our Party sees beyond this. Socialism must inevitably undergo a gradual transformatio to communism, on whose banner is written 'From each according to his ability, to each according to his needs.'" Labor in the socialist stage is in need of material stimuli. Only when the growth of the productive forces leads to abundance of consumer goods, and when labor becomes the first necessity of life for all members of society; that is, when all will work in accordance with their abilities, will i be possible to proceed to distribution in accordance with needs.

As the movement toward communism proceeds, the spre between the maximum and minimum wage will have to be reduced by further increase in the payment to the lower-paid workers, coming out of increase in production, reduction in the cost of production, reduction in administrative personnel, and reduction in the unjustifiably high incomes of certain groups.

A most important factor making for successful building of communism in the USSR, and for socialist upbuilding in the countries of Peoples' Democracy, Academician Ostrovitianov continued, is the coming into being and rapi development of a world system of socialism. Coordination of the long-range plans of development of the nationalized economies of the countries of the socialist camp, with the object of the most rational utilization of the available productive capacities, economic and natural resources, will accelerate the development of each country and of this camp as a whole.

The viability and strength of every social system is expressed not only, and not so much, in the level and scope of production already attained, as by the rate of progress. The rates of progress in the countries of the socialist cam far exceed the rates of progress in the capitalist countrie It may be calculated that the Soviet Union will overtake an surpass the United States of America in production of goo per head of population during the first half of the 70's.

The broad program for the upbuilding of communism in the USSR, K. V. Ostrovitianov said in conclusion, poses before all branches of knowledge represented in the Acade of Sciences, a number of problems of high theoretical and practical significance. The Academy of Sciences, as a whole, and the Department of Social Sciences in particular must involve themselves in elaboration of pressing problems of the upbuilding of communism on the basis of a pr found study of the practical experience of economic and cultural development in the Soviet Union and the countries of the Peoples' Democracy, and of those new and progressive tendencies, those early shoots of communism, which are developing in the fields of engineering, economics and the cultural and ideological life of the socialist countries. K. V. Ostrovitianov noted specific problems for the philosophers, economists, historians, and representatives of other social sciences, in the elaboration of scientific roblems in the gradual transition to communism.

A paper on the subject: "The Role of Marxist-Leninist leology in the Upbuilding of Communism," was read by cademician M. B. Mitin. Marxist-Leninist ideology is the oundation of the entire activity of our Party in guiding the pbuilding of communism. Without Marxist-Leninist nalysis of the events of social life, without the discovery f their laws, without correct determination of problems equiring current solution on the basis of creative applica- ion of Marxist-Leninist theory, the successful building of communist society is impossible.

The historic resolutions of the 20th Congress played an xceptionally important role in the ideological life of our arty. The creative development of Marxist-Leninist cience in relation to such most important contemporary roblems as the peaceful coexistence of two systems, the ossibility of preventing war in the current epoch, and the orms of transition of various countries toward socialism, re of major significance for the entire communist move- ent.

The period our Party has lived through since the 20th ongress is one of the most significant in its history. In a rief span of time the Party has creatively resolved a umber of most important problems of the upbuilding of ommunism. The measures carried out by the Party in re- ent years are of the most enormous, vital, practical sig- ificance for the broadest masses of the people. In addition, ese are also questions of major theoretical significance. roper solution of these practical problems requires an normous work of theoretical thought, a scientific generali- ation both of the path traversed, and a profound study and nalysis of processes of contemporary life. The present eriod is one of the richest periods in the development of e theoretical thinking of the Party. Thus, in the resolu- ions of the February 1957 Plenum of the Central Committee f the Communist Party of the Soviet Union, the law of ad- inistration of industry in the conditions of an established ocialist structure, and of the advancing development of dustry in the period of transition to communism have been ound and discovered, and the truly dialectical unity of the rinciples of democracy and centralism are expressed. The nemies of communism, the revisionists, declare that ither centralism, or democracy without centralized leader- hip, are possible. The Leninist principles of democratic entralization, built on a truly scientific basis, constitute a lear example of the application of the materialist dialectic this respect. These principles confirm the enormous mportance of centralized leadership, and of the government s the expression of the interest of the people as a whole, ontrary to all anarcho-syndicalist and localist tendencies. nd, at the same time, they proclaim the enormous signif- ance of the initiative and creativity of the masses of the eople.

The resolutions of the Party on the further development the collective farm system and the reorganization of the achine and tractor stations also constitute an outstanding ontribution to Marxist-Leninist theory. These measures onstitute an example of creative enrichment of Marxist- eninist theory, and for the further development of Lenin's operative plan. An all-round analysis of life, and a correct derstanding of the current problems of agriculture, made possible for the theoretical thinking of the Party, free of l elements of dogmatism and stagnation, to define in the solutions of the February and June Plenums of the Central ommittee of the Communist Party of the Soviet Union in 58, the course of development of socialist agriculture in e period of transition to communism, and the course to be lowed in the further strengthening of the alliance between the working class and the peasantry. Academician Mitin noted the enormous contribution made to Marxist-Leninist theory by the Communist Party of China, by the Communist and Workers' Parties of the other socialist countries, and by the Communist Parties of the capitalist countries. A Marxist-Leninist concept of the dictatorship of the proletariat is constantly being enriched by new historical experience.

V. I. Lenin always emphasized the need to apply the general truths of Marxism with allowance for the specific circumstances in individual countries. Only coordination of general principles with the concrete practice of specific countries moves matters forward. He who separates the particular from the general, and who counterposes the specific to the general, who gives pride of place to the specific, and rejects the general, methodologically departs from the materialist dialectic, and politically betrays Marxism-Leninism.

Further, Academician Mitin paused to discuss the significance of ideological work in the life of the Party in the light of the experience of the ideological struggle of our Party for the purity and creative development of Marxism-Leninism, and emphasized the enormous international significance of this experience. He subjected to sharp criticism the slanderous assertions of the authors of the program of the League of Communists of Yugoslavia, accusing our party of pragmatism. To term the activities of our Leninist Communist Party, that has been tested in many ways and is leading the country to the victory of socialism, to identify this titanic activity and the theory inspiring it as pragmatism, can be done only by people having nothing in common with Marxism.

Comrade Mitin gave detailed consideration to a number of problems of the ideological upbringing of Soviet people in the period of the gradual transition to communism. Among these problems, the problem of the broadest mass scale, inculcation of a truly communist attitude toward labor, occupied an exceedingly important position. During the transition of our society from socialism to communism, social labor will take the form not only of a factor of development of socialist production, but of an important ideological factor in the spiritual development of man. Labor, as a form of productive activity, has, at the same time, become a most important sphere of the social activity of man. In labor man reveals his moral face as a member of society, his loyalty and devotion to his country. The inculcation of a new relationship to labor is at the same time a struggle with the past in the consciousness of man.

In conclusion, Comrade Mitin detailed the role of science in the upbuilding of communism. Communism and science are organically interrelated. Under the conditions of communism, science frees itself from all fetishes and ideological obstacles hostile to its development, and serves as a powerful force in the progress of society. A most important problem for ideological work in the transition to communism is the inculcation in all members of society of a truly scientific world outlook, and a purification of the consciousness of man from remnants of the past, primarily religious superstitions.

P. N. Fedoseev, Corresponding Member of the Academy of Sciences of the USSR, devoted his paper to problems of the development of productive relationships during the period of transition from socialism to communism. The victory of socialism will make for accelerated development of production on the basis of maximum utilization of the latest achievements in science and engineering. The Communist Party, guiding the development of the forces of production, will resolve problems of change in socialist relationships of production as they arise, in accordance with the requirements of objective economic laws. This has found clear expression in the forms of socialist property, in the consistent realization of the principle of material incentive, in the development of new forms of cooperation and mutual aid between the working class and the collective farm peasantry, in the reorganization of the relationships of production between the government and the collective farms, in the changes within the system of acquisition of farm produce by the government, etc. The development of the relationships of production in turn make for a further growth in the forces of production. This dialectical interrelationship of the various aspects of the socialist method of production further accelerates the process of advancement of socialist society on the road to communism.

The assertions of revisionist theoreticians that recognition of the leading role of the Party in the struggle of the working class for socialist transformation of society contradicts the Marxist idea of the objective character of the laws of social development is hopeless confusion and a manifestation of vulgar materialism. Changes in productive forces and productive relationships are an objective process. But to deny the possibility of economic processes being influenced by man under socialism is to deny the fact that the anarchy in social production inherent in capitalism is replaced, in socialist society, by a planned conscious organization, and that the objective laws are consciously employed by society. The entry into the communist phase is a leap by mankind from the kingdom of necessity to the kingdom of freedom, and its freedom lies in the fact that men, knowing the need to change their social relationships because of the growth of productive forces, are in a position actively to assist this change. Consequently the struggle of Soviet society to change the relationships of production is not the manifestation of subjectivism or voluntarism, but conscious assistance to the objective process of development of these relationships on the basis of a deep understanding of the laws of social development.

In the system of productive relationships of socialist society, the speaker continued, the economic relationships between town and countryside have an important place. The union between working class and peasantry is the foundation of the Soviet socialist system, a foundation that cannot be left out of sight, and is the decisive force in the building of communism. The Party will always find and make use of such forms of cooperation and mutual exchange of activity between the working class and the peasantry that will correspond in the highest degree to the interests of the further development of productive forces in the interests of all society.

The foundation of the productive cooperation of the working class and the peasantry is public property. Relationships of production based on government public property are the dominant and determining elements in the system of socialist relationships of production, and in the development thereof. Between government socialist property, and the future communist non-governmental form of property, there is no fundamental qualitative difference. Differences exist only to the degree of its development in various stages of a single social economic structure.

P. N. Fedoseev criticized the current revisionist conceptions propagating the necessity to convert public government property into group property. To fractionalize and disperse large-scale socialist industry by distributing enterprises to individual groups of producers, would mean to reject the basic advantages of large-scale socialistically organized production. The reactionary utopian projects of the Yugoslav theoreticians are fundamentally in contradiction to the historically necessary process of strengthening the social character of production. To take the course of eliminating government ownership under socialism means to move backward.

Expanded reproduction during the transition from socialism to communism leads not to a narrowing, but to a further development of the productive relationships based on government public property. Strengthening of the cooperative and collective farm forms of property results not from a weakening of the role of the government sector of production, but on the basis of the strengthening thereof in all possible ways.

Pausing to deal with the features of socialist production relationships as relationships of mutual aid and comradely cooperation between workers free of exploitation, Comrad Fedoseev noted that these relations permeate all aspects o the socialist economy. They are reflected both in the orga zation of labor, and production in the enterprise and in the interrelations between subdivisions 1 and 2; and between industry and agriculture. The interrelationship between th various elements in the process of reproduction which, under capitalism, express relationships of dominance and subjection, relationships of exploitation, under socialism represent socialist cooperation of labor, a conscious and just mutual exchange of the activities of the working peopl occupied in various branches of the economy. The reorgan zation of the administration of industry and construction, and the formation of economic administrative districts, causes socialist cooperation of labor to rise to a higher level.

In socialist agriculture, coordination, specialization and division of labor proceed on the basis of growth of the socialized means of production. The development of the productive forces in agriculture laid the foundation for the reorganization of the engineering and production servicing of the collective farms, and the forms of economic relatio ships between city and countryside, transformation of the machine and tractor stations into repair and service stations, and this results in a further strengthening of collective farm property. The raising of the level of general social ownership of the means of production is expressed a well in the building of inter-collective farm enterprises and structures which are, in essence, public.

Collective farm property experiences serious changes a the present stage of construction of communism. Collectiv farm property, said P. M. Fedoseev, is a dual concept, gr property and elements of general public property. The co cept of group property therefore is inadequate completely to describe the nature of collective farm property at its present stage. The gradual expansion of the public elemen in collective farm property leads to the fact that it is increasingly losing, and will finally completely lose the character of cooperative and collective owned property, a will be converted into the property of the general public, both in content and in form.

The measures taken by the Party and government for fu ther development of industry and agriculture, are of enormous significance in overcoming the existing differen- between town and country. Change in the form of productiv cooperation and reorganization of the administration of industry shows that the development of the productive forc and production relationships of socialist society do not at all require the expansion of large cities now existing. The is basis for the belief that further development of socialis relationships of production and forms of administration will create the conditions necessary for an intelligent dispersion of the population. There will be an end to the crow ing of enormous masses of people into great cities, and to e backwardness of the countryside. With the enormous delopment of high speed forms of transportation, the wide read of the radio and of the movies and television, the hievements of culture and science concentrated in the rge cities become accessible to the residents of the most stant districts. On the other hand, new data on the developent of socialist agriculture testify to the fact that the contions for overcoming the former backwardness of the untryside are ever more rapidly coming into being. The ntinuous approximation of agricultural labor to industrial, d of the conditions of life and culture of the rural populaon to those in the city, these represent the course of delopment being taken by the socialist village.

Comrade Fedoseev proceeded then to an examination of e relationships of distribution under socialism. Socialism sures equality with regard to the means of production, d opens the way to elimination of the inevitable remnants inequality in the sphere of distribution, and to satisfacon of all of man's needs. But socialist society will reach is stage, not by an equalization of pay for all, but by a nsistent application of the principle of material incentive. the sphere of distribution, problems of bringing order to the wage system are now of maximum importance, the inciple to be followed being the introduction of progresve piece rates in industry and construction, the improveent of the method of payment in the collective farms, and e organization of government purchases of collective farm oducts.

Comrade Fedoseev emphasized that the consistent execuon of the principle of material interest does not postpone, t brings closer the realization of complete equality, i.e., e communist principle of distribution in accordance with ed, inasmuch as the material interest of the members of ciety in the development of production facilitates the owth of the forces of production.

An important prerequisite for the achievement of comete equality is the system of various forms of socially-ovided services to the people, such as: free education d medical care, comparatively low rents, free use of liaries, clubhouses, etc. These benefits are made available the entire population of the Soviet Union regardless of its ilities, skills, or positions occupied.

The major social source of the level of inequality in disibution still existing is the difference between skilled and skilled labor, and in particular, between mental and ysical labor.

In socialist society, the labor of workers and peasants gins to approach the labor of engineers and agricultural ecialists in form. This is attained by a rapid rise in the vel of culture and technical skill of the broad masses of ysical laborers, and in the reduction of the number of skilled workers. The system of higher education is being creasingly geared to the overcoming of the existing fference between mental and physical labor. And this is cilitated particularly by the spread of higher education thout leaving the job, and also by universal secondary ucation.

In conclusion, Comrade Fedoseev paused to consider the oblem of instillation of communist discipline of labor, e of the most important problems in the gradual transin from socialism to communism.

A number of economic problems were dealt with by P. S. mashkin, Corresponding Member of the Academy of ences of the USSR, in his paper: "The Development of Functions of the Socialist Government in the Process of ansition to Communism."

The activities of the Soviet government are very many-ed. They embrace economic, cultural, military, foreign political and other spheres of the life of society. In accordance therewith, the functions of our government are also many-sided. The functions performed by the Soviet government require examination in their motion and development. Their content and nature changes in accordance with internal and foreign conditions within which the building of socialism and communism proceeds.

As a result of a dogmatic interpretation of certain concepts of J. V. Stalin on the functions of the socialist state, Comrade Romashkin observed, our literature, until recently, presented an incorrect elaboration of certain important questions of the development of the functions of the Soviet government. Thus it was asserted that the economic organizational and cultural educational functions were not seriously developed during the first phase of the existence of the Soviet government, but that they became fundamental only when the existence of parallel social orders in the national economy were eliminated. This assertion is not founded in fact.

From the first days of its existence, the Soviet government became an organizer of the political, economic and ideological life of society. V. I. Lenin repeatedly emphasized that the fundamental purpose of the socialist government lies not in force, and not even primarily in force, but in organizational work to build a new society. In addition to the suppression of the opposition of the class enemies, the young Soviet government from the first days of its existence proceeded to solve problems of the upbuilding of socialism, and to create new economic relationships. It is therefore understandable that, without a serious development of the functions of society in the leadership of social production, the administration of the economy and of culture, in its first phase of existence, the economic foundation of socialism could not have been built. It is known that it was precisely during the first phase of development of the Soviet state that the industrialization of the country, and the collectivization of agriculture, were carried out. All this required enormous economic and organizational activity on the part of the government. Consequently, the organizational and economic function was one of the main functions of the Soviet government during the very first period of its existence.

The speaker stated further that in our literature the function of the Soviet government in controlling the measure of labor and the measure of consumption was underestimated for a long time. However, this function was performed by our government from the first days of its existence. V. I. Lenin, posing the question of the dying out of the state, noted that even after liquidation of exploiting classes, a government is necessary in the first place to protect social property, and in in the second place to control the measurement of labor and the measurement of consumption.

In the opinion of Comrade Romashkin, the problem of the function of the government in protecting socialist property was posed inaccurately. It was asserted that this function of the Soviet government arose only during the second phase of its development. In reality, the protection of socialist property was one of the major functions of government in the first phase of its development. Moreover, the speaker emphasized that after the building of socialism, the function of government in the protection of socialist property increased significantly. The speaker expressed the opinion that it was desirable to delimit and provide separate examination of the economic, organizational and cultural-educational functions of the Soviet state, inasmuch as the methods and forms of each of these functions has specific characteristics. Among the functions of the Soviet government carried out within the country, it is necessary, in the speaker's opinion, to include the function of the protection of the rights and legal interests of the citizenry.

Of very considerable importance is the correct determination of the external functions of the socialist government. In a number of theoretical works, all the foreign political activity of the Soviet government in its struggle for peace, for peaceful coexistence of states with different social systems, of assistance to economically underdeveloped countries, etc., were reduced purely to the function of defense of the country against foreign attack. The inaccuracy of this interpretation of this question is obvious. It is necessary to distinguish a number of foreign functions of the Soviet government: the struggle for peace and peaceful coexistence with governments having different social and political systems, the protection of the country against the danger of foreign attack, the strengthening of the indissoluble friendship, brotherly cooperation and mutual aid of the countries of the world system of socialism. In discussing problems having to do with the further development of the functions of the Soviet government, Comrade Romashkin noted that the most important of its functions will, in the future, be those of economic organization and cultural upbringing.

In proportion to progress toward communism, the development and change in the functions of government will be related to further expansion of socialist democracy, and with the involvement of the working masses in every possible way in the administration of the national economy.

Characteristic of the development of our government is the transfer of various functions formerly executed by organs of government to organizations of the general public. Thus in 1933, the Peoples' Commissariat of Labor was eliminated, and a number of its functions were made over to the All-Union Central Council of Trade Unions. Recently the rights of trade unions in the organization of labor and of wages have been considerably enlarged.

The Soviet government in creating the economic and spiritual prerequisites for transition to communism, and in training the members of society to observe the rules of communist living together, thereby prepares the internal conditions for its own dying away, and conversion from a political organization for the administration of people to an organization of things and the processes of production. However, the question as to the complete dying out of the government is organically related to the future of the capitalist system. It is understood that as long as capitalism and the danger of imperialist aggression exists, there can be no talk about complete dying out of a government.

In conclusion, P. S. Romashkin examined the problem of the role and functions of law in connection with the prospect of development of the Soviet government.

I. D. Laptev, Member of the All-Union Lenin Academy of Agricultural Sciences, read a paper on the subject: "Development of the Collective Farm System and Relations between Government and Cooperative Property." He devoted major attention to a characterization of the productive forces of socialist agriculture. On the basis of the creation of a powerful socialist industry, and the victory of the collective farm system in the agriculture of the USSR, a most profound technical revolution is underway. It is expressed in transition to a machine stage of development of agriculture. The system of machines needed for all-round mechanization for the processes of agricultural production is undergoing ever-greater improvement. The technical revolution is near to completion in grain growing. However, the reporter noted, in such fields of agriculture as stock raising, potato, vegetable and fruit raising, manual labor continues to predominate. Nor is the greater portion of the work of gathering cotton, sugar beet, long-fibered flax, and certain other industrial crops, mechanized. Completion o all-round mechanization of all types of agricultural labor a most important condition for the development of the bas of material production in the collective and state farms f progress toward communism.

Comrade Laptev spoke of the enormous achievement of our country in the development of a large cadre of agricultural specialists. The growth in numbers of this personne means that a process of transformation of agricultural labor into a form of industrial labor, a process of elevati simple physical labor to the level of labor of engineers, technicians and agriculturists is underway.

Thus, the productive forces of socialist agriculture hav not only undergone gigantic quantitative growth, but fundamental qualitative changes, on the basis of modern techno and the application of the latest achievements of science.

An increase in the level of socialist ownership of produ tion is a law of the development of agriculture along the path of gradual transition from socialism to communism. This is manifested in the increase in the size of the agricultural enterprises, and the volume of their gross and marketable production, of their gross and net income. An important role in increasing the level of socialist ownership of collective farm production was played by the merg of collective farms in 1950 and 1951.

The creation of large, highly mechanized enterprises, t socialist coordination of labor, the reinforcement of personal material incentives of the workers in the results of production, make for a constant increase in labor productivity. From 1950-1956, labor productivity rose 48 per cent in the collective farms, and 87 per cent in the st farms under various types of administrations. However, level of labor productivity attained in the collective farms does not correspond to the possibilities inherent in social agriculture. In labor productivity, agriculture lags behin the agriculture of the most advanced capitalist countries. Therefore, a fundamental problem in the further development of collective farm and state farm production is to overtake and pass the level of labor productivity in large agricultural enterprises of the major capitalist countries According to preliminary data, the productivity of labor i state farms in 1965 will be approximately 2.3 times as hi as in 1956. In the years immediately ahead, the state far will overtake the United States in labor productivity in gr production. Our country is the first in history to pose the problem of attaining a level of consumption of produce determined by scientifically-founded standards of nutriti for the all-round harmonious development of man. In this connection, the volume of production of agricultural prod per 100 hectares of farm land at minimum expenditure in labor and funds per unit output has been taken to be the most important index of socialist management. An economically justified connection between the growth in agricultural production and satisfaction of the requirements the population has thus been established. The main line development of socialist agriculture has always been, and now is, the rise in yield per hectare. However, this requires long period. But the problem of a sharp upsurge in agricu ture had to be resolved without delay. This is why the opening, in a short period of time, of 36 million hectares virgin and fallow lands is of such great importance. The placing of these lands under the plow made it possible to carry out major changes in the distribution of agricultura crops among the various regions of the country, and to increase the specialization of the various regions with th object of improving the efficiency of employment of the la

I. D. Laptev criticized assertions to the effect that the pansion of land under grain in the virgin territories is llegedly contradictory to the principle of intensive agriculure, and represents an extensive type of development. In eality, hundreds of highly mechanized state farms, equipped with powered machinery, have developed in the hitherto unpopulated spaces of Kazakhstan, Siberia, and the trans-Volga area, exceeding the state farms of the populated areas n this respect.

The successes in the field of crop raising, in particular n the production of grain, made it possible to pose a most mportant economic objective, to catch up, and in the next ew years, surpass the United States in the production of meat, milk and butter per head of population. Solution of this problem will result in a significant qualitative improvement n the content of the food intake of the people of the USSR.

The speaker then proceeded to an examination of quesions having to do with the prospects for the development of he collective farms and collective farm property.

In our literature, he said, the view that collective farm property has a lower form of property which, to a considerable degree, had as yet "not grown up" to the level of completely socialist property, long had currency. However, we know that collective and cooperative property is socialist property. Consequently, the problem is not at all that of rendering collective farm property socialist, but that of causing the collective farm system to rise to the level of a ationally-held system of property in the course of its urther development.

Also inaccurate, in the opinion of I. D. Laptev, is the conception that collective property is group property. This does not reflect the essence of collective property in its totality. It is true that the ownership of the products of production in the collective farms is collective ownership by the individual farms, and by the members of the individual agricultural cooperatives. As far as the non-distributable funds are concerned, they are of broader social and economic significance, and this is ignored in describing collective farm property as group property.

The fact that the indivisible funds are the property of the cooperative system as a whole was determined in the earliest stages of development of the collective farm system. Recently the development of the non-distributable funds of he collective farms witnessed a number of special features. Considerable government contributions were made to the ndivisible funds. Many collective farms had their indebtedness for compulsory delivery, and payment in kind for he work of the machine and tractor stations written off, as was their indebtedness for loans in food and money. And he government extended enormous credits on favorable erms to the collective farms. A significant feature of the ndivisible funds is the fact that the collective farms are building irrigation structures (with the assistance of government financing), roads, schools, hospitals, etc., with them. All this cannot but affect the nature of the collective farm ndivisible funds themselves.

The question of the form in which collective farm property in the means of production will undergo transformation s of high theoretical and practical significance. Collective arm property, the speaker said, cannot grow over into government property. This would be nationalization of the cooperatives, which has always been opposed by the Party, nd was opposed by V. I. Lenin. In the opinion of I. D. Laptev, elevation of collective farm property to the level of ational property, means its transformation into a special ariety of national public property, on the road to transiion to a single form of communist property.

In elevating collective farm property to the level of naonal public property, the process of further socialization f collective farm production plays an exceptionally important role. At the present time, this process is being accelerated in connection with the development, by the collective farms, of their own industries.

Comrade Laptev paused to consider the major factors determining the development of the agricultural cooperative on the road to communism. The collective farms will establish their own bases of materials and technology, making possible all-round mechanization of all branches of production. They will be completely provided with skilled personnel, familiar with methods of industrial labor and capable of introducing all the achievements of agricultural science into production. A rational system of farming, making for a maximum possible yield per hundred hectares of farm land at minimum labor cost, will be introduced into the agricultural cooperative. This will be attained by development of a multi-faceted economy, specialization thereof, the application of a complex of measures of agricultural engineering guaranteeing high and stable crops under all climatic conditions. The application of chemistry to agriculture will be of enormous significance.

All collective farms must be provided with radio and telephone services, as must all collective farmers' homes. The collective farms must have model schools, clubhouses, motion picture theaters and libraries, public enterprises and offices serving the everyday needs of the collective farmers. Thus, the collective farms will gradually grow over into communist forms of enterprises, and collective farm property into a unified communist form of property.

In conclusion, I. D. Laptev examined certain problems of the development of commodity exchange between the city and the village under the new conditions, and the introduction of cost accounting into collective farm production. In particular he emphasized that in order to calculate the cost of collective farm production under conditions of cost accounting, a real and not a conventional evaluation of the payment of collective farm labor is required.

L. M. Gatovsky, Doctor of Economic Sciences, read a paper on: "Commodity and Monetary Relationships in the Period of Transition from Socialism to Communism." At the outset, he examined the objective necessities, features and forms of utilization of commodity and monetary relationships, and of cost categories along three intimately related lines: 1) for the realization of economic ties between spheres of the economy, between branches, enterprises, between society and its members, that is, in the field of distribution of labor, of the joint social product, and of the national income; 2) as a material stimulus for labor; and 3) as a means of accounting of social labor and the results thereof.

The speaker gave detailed consideration to the problems of how to correlate direct social labor with commodity and money relationships. In discussing the relationship between the action of the law of value and the entire system of economic laws of socialism, he criticized economists who ascribed to the law of value the role of regulator of a development of the socialist economy, which is not the case. He also criticized those who underrate the role of commodity and money relationships in the building of socialism and communism. In this connection, the speaker analyzed how society employed commodity and monetary relationships to determine the level and structure of production, to distribute the means of production, labor and finished products, to coordinate the work of individual enterprises into a unified, organized and planned system of the socialist national economy, and the role played therein by the economic relationships between enterprises. In the sphere of commodity and monetary relationships a multi-faceted and very complex process of revelation of social needs, of comparison and mutual accommodation of supply and demand occurs. The process of realization of commodities serves as an essential supplementary check on the part of society upon the degree to which the production of goods corresponds to need. L. M. Gatovsky described the tremendous and still-rising role played by the planned reciprocal reaction of the sphere of commodity exchange upon the sphere of production; and also the significance of planned coordination of the movement of material values and monetary means. The reporter then proceeded to the question of the employment by society of value as a lever for material stimulation of the workers and the collectives of enterprises. Distribution in accordance with labor as a form of material stimulus of workers is effected primarily by monetary payment and exchange of monetary incomes for commodities. The material stimuli for enterprises include price, profit, the entire system of cost accounting — which is a form of planned conduct of businesses unique to socialism, based on the employment of the law of value in the interests of society as a whole.

In view of the dual nature of labor, its direct social character is necessarily expressed by comparison of labor costs, and their direct results by means of value. In the monetary expression of the costs of production of various products through prices, society and each individual enterprise obtains an objective economic criterion of the efficiency of production, making it possible to compare individual costs (the expenses of the enterprise) with those socially necessary. On the basis of the law of the planned development of the national economy in accordance with the basic economic law of socialism, proportions and rates are established in the development of the economy, and, as a result, the plan for output deriving therefrom. By making use of the law of value, society discovers the socially-required expenses per unit of each of the forms of this production, and determines the ratios of exchange of one type of production for another, based on socially-necessary expenses. This is necessary to permit society normally to recover its costs, to accumulate, and thereby to assure the proportions that society has established. Further, the speaker considered certain factors in the utilization of the law of value to stimulate the reduction of individual and socially-necessary expenditures, and also dealt with the specific peculiarities of the employment of the principle of profitability under socialism.

Taking all the foregoing as his point of departure, the speaker formulated postulates as to the causes which, in his opinion, give rise to the need for monetary and commodity relationships under socialism. In this connection, he examined the peculiarities of social property and the nature of social labor during the socialist stage of development, reflecting the corresponding level of development of the productive forces. The following problems were given special attention: the significance of the existence of cooperative property under socialism; the specific characteristics of general public property under the conditions of socialism; the relationships within the limits of, and on the basis of, government property, between the government and its enterprises; the relationships between the socialist society and its members; and, correspondingly, between social and personal property. All this is indissolubly related with the peculiarities of socialist labor, with the method of planned incorporation of individual labor in the totality of social labor under socialism.

Inasmuch as, under socialism, no complete abundance of the products of labor yet exists, labor is as yet socially diverse and has, for the most part, not become the first necessity of life. An objective necessity exists for material stimulus to labor, and for reward to labor by the realization of the principle of equivalence (relative, obviously, and not absolute). The speaker dealt with the question of why this payment for labor, and consequently exchange of activities among the members of society, must be made by means of monetary and commodity relationships; why individual labor has to receive general expression through value in order for its planned incorporation into a unified system of social labor to occur; and what is necessary for the distribution and utilization of the totality of labor, and the results thereof. As has been demonstrated by the practice of a socialist development of the USSR and the countries of Peoples' Democracy, the unified process of socialist reproduction would be unthinkable without constant circulation of money as the single universal equivalent. The exchange of money between government and population, between workers and enterprises, between branches, regions, etc., is necessary for the planned coordination of all the elements in the process of reproduction, both on the scale of the individual country, and on tha of the individual enterprise. Socialist economics excludes the substitution, for money, of labor chits, and other symbols of calculation which would not circulate, but would like theater tickets, cease to exist after having been presented.

Consequently, commodity and financial relationships have deep roots in the socialist economy, and cannot suddenly be "repealed," and will die out only as a result of a gradual disappearance of the conditions for their existence which will be attained only in the higher phase of communism. Then the objective necessity and possibility for the substitution of more advanced forms of economic relationships, such as direct distribution in accordance with need, for commodity and monetary relationships, will come into being. And calculations on the basis of value will yield place to direct calculation of labor. Transition to direct distribution will become possible when the level of the productive forces will make possible the creation of abundanc and of enormous reserves of material goods, when all the property of society will become public communist propert social differences in labor will disappear, and labor will become the first necessity of life. The need for a corresponding stimulus to each worker and each enterprise as on of the conditions for incorporation of individual labor into unified social labor will disappear, and there will be no need for social monitoring of the measure of labor and the measure of consumption. A gradual perfection of commercial and household services to the population will prepare the establishment of a widespread apparatus of communist distribution. At the same time, the entire system of accou ing will undergo improvement, including socially-necessar expenditures which, on the basis of the corresponding economic conditions, constitute one of the factors of prepa tion for the transition to direct calculation of labor.

But until the gradual creation of these prerequisites has taken place, the fullest possible employment of commodity and monetary relationships will not only not contradict the requirements of the upbuilding of communism, but will be directly dictated by those requirements. The path to the dying-out of commodity and monetary relationships lies through the development thereof. As experience has shown in our economy that which is occuring is not the conversio of economic processes into natural processes, but, on the contrary, the intensive development of commodity and monetary relationships, something that will doubtless continue in the period ahead. This is related to a considerabl number of factors: the rapid growth of commodity production and commodity exchange (including growth of agricultural production and exchange between town and village, th ocess of overcoming the backwardness of agriculture, a arp rise therein, the reinforcement and development of e collective farms, the reorganization of the machine and actor stations, and elimination of payment in kind); the velopment and more consistent realization of the principle material stimuli; and the ever more effective utilization the categories of value, price, cost, and profit; the ever eater reinforcement of cost accounting in all fields of the tional economy; the strengthening of the role of the onomic value levers in planning; the current state of de- lopment of democratic centralism in the administration economy; and the unleashing of the initiative of local dies and enterprises.

Proceeding to the question of the role of the development commodity and money relationships in the upsurge of the ving standard of the people and the distribution of the tional income, the speaker emphasized that a gradual ansition to distribution in accordance with need will be alized by means of direct rise in the monetary income of e population, and an ever-greater satisfaction on the sis thereof, of the working peoples' demand for commodi- es and services. At the same time, the proportion of free ervices to the population, on the basis of the social and ltural expenditures of society and the growth in resources, ill increase. As Marx foresaw in the critique of the Gotha ogram, "The share of the fund earmarked for joint tisfaction of needs" will increase constantly in accordance ith the transition to communism. Further, the abundance ceived will provide the basis for realization of a gradual ansition to distribution in accordance with need, first of e objects of prime necessity used in greatest quantity. The eaker examined the role and significance of increase in mmodity exchange and reduction in retail prices in mparison with other factors in the raising of the real in- ome of the population and in connection with the problem of adual curtailment of the differences in income, as the ansition to communism proceeds. Describing the prospects r the development of commodity and money relationships, . M. Gatovsky dealt with the gradual change in the content ereof, inasmuch as they will, to an ever-greater degree, press the growing elements of communism in the onomy. He examined the concrete manifestations of the ntradictions related to commodity production and ex- ange, and the question as to how these contradictions, fferences, and elements of spontaneity will be overcome on e basis of the ever-greater development, strengthening, d perfection of the element of planning in the sphere of mmodity and monetary relationships. The speaker em- asized the enormous importance of the growth in com- odity resources, and in reserve supplies of commodities this respect.

The prospects of development of commodity circulation d commerce were examined by L. M. Gatovsky in cordance with the following categories, distinguished by ecial features of relationships of property and level of anning: commodity circulation of the means of production tween government-owned enterprises; commodity circu- tion between the government sector of the economy and e collective farms; governmental and cooperative trade consumer goods; and collective farm trade (the unorgan- ed market).

In commodity circulation between government enterprises, e struggle with mechanistic distribution of products will come more intense in the direction of perfecting com- ercial methods of operation. The role of direct business ntracts, and the use of money as a means of assuring eir fulfillment, will become greater. The speaker ad- nced a number of postulates on the expansion of the material base for cost accounting and the rights of management, increasing the role of profit in the economic life of the enterprise so as to permit it to be used to a greater degree to develop production and reward personnel, increasing standards of profitability and the share of profits remaining with the individual enterprise, realization of an increase in the dimensions and significance of the fund of the enterprise, and its utilization in its entirety for prizes and improvement of the material and cultural conditions of the workers, and perfection of the system of prices for industrial goods.

L. M. Gatovsky then dealt with problems of further development of commodity and monetary exchange between city and countryside. He criticized economists holding to the position of an ever-greater conversion of agriculture to a system of natural relationships at the present stage of development. The fact is, that as farming and specialization therein progress, the role of production for the market increases. In this connection, and also in connection with the increase in the share of industrial commodities in the budget of the collective farmer, and with the greater purchase of farm products by collective farmers, due to the rising specialization of agriculture, the monetary incomes of the farmers will grow more rapidly than their incomes in kind. It is also necessary to take into consideration a number of advantages enjoyed by the monetary form of payment for the labor of the collective farmers (the conveniences inherent in the role of money as a general equivalent, the advantages of monetary payments for purposes of cost accounting, etc.). The development of monetary and commodity relationships will facilitate greater approximation of the collective form of production to the governmental form. Dealing with questions of improvement in agricultural prices and the development of cost accounting, the speaker also noted that after reorganization of the machine and tractor stations, and the widespread sale of tractors to the collective farms, it would be necessary to introduce refinements into the concept of the alliance between the workers and the peasantry through production and through trade and commerce, and to eliminate the incorrect counterposing of these to each other. Comrade Gatovsky holds that it would be correct today to speak of two forms of economic alliance between town and village, productive and nonproductive (or consumer). The productive alliance includes supply to agriculture of means of production, commodity exchange of means of production between town and village, assistance to the village in the form of industrial personnel, etc. The alliance in the field of production is realized both in the form of commodities (sale of tractors to collective farms), and in non-commodity forms (for example, in servicing the collective farms through the machine and tractor stations). The unproductive (consumer) alliance represents realization by the farm population of consumer goods, satisfaction of the cultural needs of the countryside, etc.

Speaking of the prospect for the development of cooperative and government retail trade, the speaker dealt with the quantitative growth of commodity turnover, improvement of its structure, greater uniformity in the supply of commodities in connection with the problems of assuring the supply to the population of the basic commodities in adequate quantity, and elimination of the lag in supply of the mass of commodities behind the sharply-rising consumer demand. In this connection, he noted that with the object of improving commercial services to the population and of establishing a closer correspondence between the effective demand and supply of commodities, it will be necessary, in the immediate future, to assure a more rapid increase in the production of consumer goods and the volume of paid services relative to the increase in the monetary income of the population. The speaker criticized the thesis that has received circulation among us to the effect that effective demand must constantly outstrip production and the supply of commodities. This relationship of the rates of increase in effective demand and supply leads to a mechanistic distribution of commodities, to a weakening of the influence of consumer demand on improvement in the assortment and quality of commodities, etc. A more rapid growth in the mass of commodities relative to effective demand, is a necessary basis for the reduction of prices. However, the opposite thesis, to the effect that, under socialism, the increase in supply must constantly outstrip the increase in demand, is also wrong. This can lead to the formation of excessive reserves of commodities.

L. M. Gatovsky then proceeded to questions of normalization of stocks of commodities in the channels of commerce, and improvement in the structure of trade turnover. He noted the erroneousness of the positions of those economists who indiscriminately extol any increase in the rate of commodity circulation, as well as any reduction in the cost of circulation, regardless of the manner in which this is reflected in the quality of trade. L. M. Gatovsky emphasized the need for a more rapid growth in the output of public feeding enterprises than in retail trade, the significance of the forcing of the volume, the improvement of the quality, and the cheapening of public feeding, and the appropriate forms of trade for relative reduction of the sphere of the household economy. The speaker dealt with the prospective of more rapid development of retail trade in the village than in cities, and posed the question of a future conversion to a single level of retail prices in the cities and the countryside.

In examining questions having to do with the further development of collective farm trade, Comrade Gatovsky noted that, thanks to the increase in resources of commodities in the country, there is a pronounced strengthening of economic regulation of the prices in the collective farm markets, and there will be an ever-smaller spread between market prices and government retail prices. Dealing with the significance this will have in changing the relationship between the incomes of the collective farmers from their social and personal businesses, the speaker stated that stimuli to realization of their surpluses through the collective farms and the cooperatives would be even greater. In collective farm trade, the share of the collective farmers will constantly decrease, as compared to the share of the collective farm. Collective farm trade will increasingly be converted into trade by the collective farms, on the basis of prices close to those set by a government, and will thus come to approximate the organized market. Commission trade by the consumer cooperatives will undergo further development.

Generalization of the practical experience in the improvement of commodity and monetary relationships, and better utilization of the categories of value, are of high importance to the discovery of further resources with the objective of accelerating the upbuilding of communism and a rise in the living standard of the people.

A. A. Arzumanian delivered a paper on the subject: "Perspectives in the Competition between the Two World Systems." The present epoch is one of transition from capitalism to socialism on a world scale. The contradictions between the two systems constitute the major social contradiction of our time. And the course and results of this great competition between the two systems are today determining the entire development of the world. From the viewpoint of the interests of socialism and of mankind as a whole, the only acceptable foundation for the relationships between these two systems is the principle of peaceful coexistenc and competition between them, in the course of which socialism will demonstrate its decisive superiority over capitalism to an ever and ever greater degree.

The prevention of war has, in our day, become a real posibility. Socialist society does not need war as an instrument of its national and international policy. As a result of this, and under conditions in which the world system of socialism has come to represent a powerful material and moral factor for peace, capable of restrainir the aggressive strivings of imperialism, there flows the historical conclusion made by the 20th Congress of the Communist Party of the Soviet Union, that under the conditions presently existing, war is not a fatal inevitability.

In posing the problem of the upbuilding of communism, V. I. Lenin related it to the need to overtake and surpass the most economically-advanced capitalist countries. In the forty years of Soviet power, our country has eliminate its former technical and economic backwardness, and has reached second place in the world in the volume of industr production. Today the Soviet Union poses the question of catching up to and surpassing the most advanced capitalis countries, including the United States, in the level of prod tivity of social labor, and also in the scope of production and consumption of material goods per head of population. This problem will be resolved not only by the Soviet Unior but will be solved in common by the entire socialist camp The formation of a world socialist system created new an exceptionally favorable possibilities for the acceleration the rate of development of the socialist economy. Coordin tion of the efforts of the socialist countries, the development of specialization and cooperation of interrelated branches of their economies, further development and a deepening of the international division of labor, represent the tremendous advantage of the socialist world system in its competition with capitalism.

Proceeding to an analysis of the perspectives for the development of the capitalist economies, Comrade Arzumanian dealt primarily with the reasons for the increase in industrial production in the capitalist world during the pa two decades. The most important cause for the growth in capitalist production has been the inflation of Group I in connection with the preparation for the Second World War and that war itself, in which the militarization of the econ omy functioned as a newly-discovered market. At the present time, the arms race no longer provides a means the capitalist state seriously to increase the volume of industrial production. In a period in which the productive capaciti of military industry have already been created, and armame and war materials are being produced thereby, militarization no longer functions as a newly-discovered market.

Rapid development of Group I, particularly in a post-wa period, was also related to the requirements of renewal o basic capital under conditions of rapid progress in technology. The renewal of basic capital, to the degree that it was performed on a new technological basis, called forth need for new industrial construction. The comparatively rapid rate of growth of capitalist production during these years also facilitated structural changes, and the require ments for a softening of some of the sharpest disproporti in the world capitalist economy related thereto. In the immediate future, A. A. Arzumanian noted, the probability o a repetition of this combination of circumstances, which was responsible for the relatively rapid growth of capital production during the past decade, is virtually out of the question. All that can be seriously envisaged are the low rates of growth of industrial production customary for today's modern over-mature capitalism.

Comrade Arzumanian then proceeded to examine the effect the process of the breakup of the colonial system upon the ospects for the development of capitalism. Marxism-eninism regards the movement of national liberation of the oples in the colonies as one of the most decisive elements the struggle against imperialism. The independent politi-l and economic development of nationally-independent untries of Asia and Africa today does not strengthen but eakens world capitalism. The development of the forces of oduction has been accelerated somewhat in these coun-ies. This is facilitated by state capitalism, which at the esent stage has, in these countries, become a weapon for e concentration of the efforts of the nation on the over-ming of economic backwardness by undermining the undations for the dominance of foreign monopolies and by pplanting the old colonial structure of the economy, and r the struggle against imperialism. Most important oblems of the internal development of the independent untries of Asia and Africa are incapable of solution by eans of the usual course of capitalist development. The ople of these countries will become increasingly con-nced of the fact that it is not capitalism but socialism that presents their immediate future.

The weakly-developed countries cannot provide a large w market for imperialism. Imperialism itself is the ime factor interfering with this. In connection with other ctors, this eliminates the possibility of rapid rates of de-lopment of the capitalist economy.

The time period required for the solution of the main onomic problem of the USSR depends upon the initial re-tionship between the levels of industrial production in the SSR and the USA, and upon the rates of growth of industrial oduction. The volume of industrial production of the USSR the present time is approximately one-half that of the nited States. As far as the production of industrial prod-ts per head of population is concerned, the Soviet Union day continues to lag not only behind the United States, but hind the countries of Western Europe. In 1957, the United ates exceeded the Soviet Union in production of industrial oducts per head of population by approximately 2.5 times; d in the productivity of labor in industry, by approximately ice. The United States exceeds the Soviet Union in the tal volume of agricultural production by less than 100 per nt; and in production thereof per head of population, by proximately 100 per cent. However, the Soviet Union ssesses significant advantages over capitalism in rate of owth of production. Providing a critical analysis of rtain estimates of the perspectives of the growth of the onomy of the United States, made by bourgeois economists e Ensley Report, the Paley Commission), Comrade zumanian provided substantitation for the concept that, er a long term (1958-1975), the industrial production of e United States will grow, on an average, about 1.6-2.2 r cent per year. It must be taken into consideration that, the present time, the American economy is experienc-g a crisis, and that after the crisis, the depressed state the world capitalist economy, and in particular, that of e United States, will not be overcome rapidly. The undation for this assertion is the sharp and continuing op in the volume of capital investments, the higher level idleness of productive capacities in a number of fields an was the case in 1929-1933, and finally, the insignifi-ht increase, and currently, the absolute drop in personal nsumption.

in recent years, the Soviet Union exceeds the United tes not only in the rates, but in the absolute increase in umber of important types of industrial production. Thus, the period from 1953-1957, the average annual absolute increase in production of iron ore in the Soviet Union was 6.1 million tons; and in the United States, output decreased by an average of 3 million tons per year. The increase in the smelting of pig iron in the Soviet Union was 2.4 million tons; and in the United States, 0.8 million tons, while the smelting of steel rose respectively 3.2 million and 0.3 million tons, the mining of coal by 30.6 million and 5.7 million tons, and the production of cement by 3.2 million and 1.2 million tons. The rates of growth of socialist production will be high in the future as well. It may be asserted with all confidence that the average annual rates of increase of production, in the years immediately ahead, will not be less than 10 per cent. Starting from the present levels of production of the USSR and the USA, and the rates of increase of industry, of 10 per cent per year on the average in the USSR, and about 2 per cent per year in the USA, it is to be postulated that the Soviet Union will attain the present total level of industrial production of the United States within seven to eight years, and will come equal to the United States two or three years later in terms of the possible growth of that country's economy in the period ahead. Inasmuch as it may be expected that the population of the USSR will then be 15-20 per cent higher than that of the United States, it will take only another few years to overcome and surpass the United States in the scale of production per head of population, that is, to solve the main economic task.

It may be expected that the Soviet Union will catch up to the United States in production of national income per head of population in less than fifteen years. During the same period, we will catch up to the United States in the level of productivity of labor in industry. This will provide the foundation for such a rise in the living standard and culture of the people of town and country as is unobtainable for any capitalist country, no matter how rich.

The Soviet people, A. A. Arzumanian said in conclusion, is building a communist society, and will assist the other countries of socialism to proceed to this great objective. There can be no doubt that the peoples of the socialist countries will, in persistent and determined labor, successfully resolve the problems ahead of them under the guidance of the deathless teachings of Marxism-Leninism. Capitalism will be defeated in a peaceful competition with socialism.

The meeting also heard papers by B. G. Gafurov, Corresponding Member of the USSR Academy of Sciences on: "The Building of Communism and the National Question"; and by D. R. Shcherbina, Doctor of Philology on: "Soviet Literature in the Struggle for the Upbuilding of Communism."

The first speaker in the discussion was P. N. Pershin, Member of the Academy of Sciences of the Ukrainian Soviet Socialist Republic. He said that an important problem facing the science of economics is that of determining the concrete paths to be followed in raising collective farm and cooperative property to the level of general public property. In the opinion of Comrade Pershin, the following paths exist: 1) consistent increase in collective farm production; 2) an increase in the share of elements serving general public needs in the composition of collective farm property; 3) the further unswerving increase in the share of the social economies of the collective farms, and a relative reduction in the role of the collective farmers' private plots; 4) a rise in the productivity of labor of the collective farms to the levels attained in enterprises founded on national public ownership; 5) a growth in the level of consumption by the collective farmers on the basis of the output of the socialized farms of the collectives.

The level of socialized production in the collective farms is constantly rising. Thus calculations show that, in 1950, the socialized property of the collective farms of the Ukraine embraced 81 per cent of all the means of production employed in the collective farms and the private plots of the collective farmers, while, by 1957, this percentage figure rose to 87. The role of the socialized economy in the output of produce also increased.

The central problem of the further rise in collective farm and cooperative property to the level of general public property is an increase in the productivity of labor. At present the labor productivity in the collective farms is approximately one-half that in the state farms. Thus, in 1957, on the state farms of the Ukraine, a gross production of approximately 16,000-17,000 rubles was produced per average year-round worker, while, on the collective farms, the figure was only 9,000. An important role in the uplifting of the productivity of labor in the collective farms will be played by new progressive forms of payment of labor (preliminary advances, and guarantees of monetary payment for more labor days). P. N. Pershin demonstrated the significance of these forms of payment of labor for the upsurge of collective farm production, citing concrete examples from the experience of the Bolshevik Collective Farm of Shostkin District of Sumy Region.

Comrade Pershin then proceeded to describe the economic characteristics of the indivisible funds that constitute the basis of collective farm property. Describing the characteristics of those indivisible funds which cause that portion of collective farm property to approximate general public property, he noted in particular that a considerable portion of the indivisible funds of the collective farms constitute means of production inseparably related to the land (for example, perennial plantings, roads and irrigation structures, buildings, etc). In 1957 in the collective farms of the Ukraine the value of such means of production came to 11.3 billion rubles (out of a total of 23.5 billion rubles of indivisible funds all told). The inseparable connection between these collective farm means of production, and the land, which is government owned, is what gives them their general public character.

The indivisible funds constitute the foundation in material production of the socialist economy in its collective farm segment. The conditions for the formation and utilization of these funds, and the conditions for their disposal, as determined by the Rules of the Agricultural Cooperative, are such that the private interests of private groups of collective farmers and even of the individual collective farms as a whole cannot predominate over the general public interest. Thus the indivisible funds constitute that category of collective farm property which most nearly approaches general public property. However, in the opinion of Member of the Academy Pershin, those comrades are in error who propose today to declare the indivisible funds public property.

Inasmuch as the monetary resources constituting part of the indivisible funds of the collective farms are accumulated in the Agricultural Bank, the possibility exists, in the opinion of P. N. Pershin, economically to strengthen the leading role of the socialist state in the utilization of the indivisible funds by the collective farms. The Agricultural Bank is capable of redistributing funds when necessary among the various collective farms and regions of the country by means of long-term credits. Employment of the possibilities for redistribution of the monetary funds through the system of government credit would, in essence, be a further elevation of the level of socialization of collective farm property.

Comrade Pershin advanced the hypothesis that cooperative collective farm property will continue to exist until full communism has been built, when an abundance of products has been established, and the communist principle of dis bution in accordance with need has been realized, cooper tive collective farm property will lose its significance a will be converted into general public property.

T. S. Khachaturov, Corresponding Member of the Acad of Sciences, devoted his paper to the role of technologica progress in the building of a communist state (the conter of Comrade Khachaturov's remarks is expressed in his article published in the magazine Problems of Economic No. 8, 1958).

Among the programmatic measures carried out by the Communist Party and the Soviet Government subsequent the Twentieth Congress of the Communist Party of the Soviet Union, said V. S. Nemchinov, Member of the Acad those measures having to do with further development of commodity and monetary relationships in the socialist economy are of much significance. The repeal of payme in kind for the work of the machine and tractor stations, and the very latest phenomena in the economy of collecti farms related to transition to payment for the work day money, the expansion of the practice of direct contractua relationships with industry: all these processes called fo by the demands of life itself overturned many erroneous dogmatic concepts on the path to be traversed from soci ism to communism. Among the dogmas refuted by life th is, for example, the assertion that relationships in kind, in particular, payment in kind for the work of the machin and tractor stations, or payment in kind for the work day represent as it were fundamental features essential to th collective farming system.

V. S. Nemchinov expressed the opinion that both the sc of economics and practice often underestimate the signif cance of certain standardizing criteria, in particular the criteria for socially-necessary payment of labor. In this connection he dealt with the question of calculating the c of production of collective farm output. Distribution in a cordance with work days, Academician Nemchinov declared, is not to be identified with payment for labor. In some collective farms incomes for work days include pu profit; in others, incomes in work days are still consider below the socially necessary payment for labor. Therefo calculation of actual expenses in the production of collec farm produce, in the opinion of V. S. Nemchinov, may se to raise the index of cost in collective farms where distr tion in terms of labor days is higher than the socially essary standards for the payment of labor, and, on the co trary, may depress this index where the actual income o the collective farmers is lower than the average social standard. Comrade Nemchinov believes that the method of calculation of costs of collective farm production base on data as to the actual distributions in terms of work da is inaccurate, and that the partisans of this method proc from a false theoretical presupposition that a fixed (guar anteed) monetary payment for labor is a category contra dictory to the nature of the collective farm system.

Further, V. S. Nemchinov emphasized that the expansi of commodity and monetary relationships in the Soviet economy cannot be identified with a strengthening of the role of the market principle in the development of the na tional economy. The principle of the planned organizatio of social production as a whole takes on ever-greater im portance as our society moves toward communism. The difference between the principle of planning and the prin ple of market control of the economy, propagandized by the revisionists, consists in the fact that the former guarantees social appropriation of the surplus product, and the latter serves to distribute the total surplus value among various private entrepreneurs.

A planned organization of the national economy does not ontradict broad employment of such social criteria as alue and money to control the national economy. Under the onditions of socialism money has ceased to be a "testi- ony to the acquisition of tribute from the working people." ommodities, on the other hand, created under the condi- ons of social property in the means of production and anned prices, no longer serve to embody private appro- iation of surplus product.

In conclusion, V. S. Nemchinov noted the importance of eveloping the theory of planned prices and of the entire ystem of value categories serving the socialist planned conomy.

Ya. A. Kronrod, Doctor of Economic Sciences, devoted is paper to the problem of contradictions in the develop- ent of the socialist economy. The most important problem the political economy of socialism is the study of the ontradictions inherent in the socialist relationships of roduction.

The study of the problem of contradictions demands that e determine whether they result from the essence of the roduction relationships of socialism. In this connection, omrade Kronrod criticized the definition of socialist re- tionships of production, widespread in the literature, as elationships of comradely cooperation and socialist mutual id of persons free of exploitation. He holds that this defi- ition is descriptive in nature, and does not reveal the ssence of the matter. It does not include a description of e fundamental economic characteristic of the production elations, the nature of property, and the relationships de- ermined thereby of appropriation of the necessary and the urplus product. The terms "cooperation," and "mutual id" are more nearly moral and ethical in nature, and do not xpress economic categories. To state that the relationships f socialism are relationships between people free of exploi- tion does not provide in positive form just what those re- tionships are. And, most important, this definition does ot reflect the contradictions in socialist production, and e motive forces of its development. In view of all this, is definition cannot be deemed a rigorously scientific one. a. A. Kronrod proposes the following suggested definition f the relationships of production under socialism. Socialist elationships of production are relationships between peo- le in material production and exchange, founded on so- ialist ownership of the means of production, distribution accordance with work, and appropriation of the surplus roduct by the working people and by them alone. The ad- antages of this suggested formula lie in the fact that, in e first place, it notes the relationships of social owner- hip at the socialist stage of its development, in which they volve distribution in accordance with work done; in the econd place, this formulation includes a positive char- cterization of socialist relationships of production: appro- riation of the surplus product by the working people and ly by them. In the third place, this definition reflects the ontradiction between the relationships of equality in owner- hip of the means of production, and the relationships of ctual inequality as a result of the utilization of these means production in the real process of production. These con- adictions, which are inherent in the entire socialist phase, d were discovered by V. I. Lenin, are the internal con- adictions of the socialist relationships of production. They nbrace contradictions in property relationships, con- adictions in labor, contradictions in social reproduction, d contradictions flowing from the operation of the econom- laws of socialism, and so forth. Ya. A. Kronrod empha- zed that it is impossible to limit the problem of contra- ctions only to those that are temporary in nature. Without ignoring those contradictions it is necessary, in the first place, to elaborate the problem of the non-antagonistic contradictions constantly in operation and resolved by society over the entire course of the socialist phase.

Ya. A. Kronrod continued that although there is class unity in our society, although there is unity in the fundamental interest of the entire people, and although there is moral and political unity; nevertheless, socialist society has its permanent social contradictions. Comrade Kronrod analyzed a number of the most important contradictions in the economics of socialism: in property relationships, in social labor, among production, distribution, circulation and so forth.

Contradictions existing under socialism are non-antagonistic contradictions. The insoluble social conflicts of classes do not exist under our society. However, it is contradictions that are the source of the development of the socialist economy. It is necessary to struggle, said Comrade Kronrod, against the thesis advanced in philosophical literature by certain comrades, to the effect that "not contradictions but unity" represent the source of movement in our society. Such a thesis, in his opinion, constitutes in essence a revision of the Marxist dialectic. Marxism-Leninism regards unity and contradictions as inseparable aspects of the essence of all reality, including economic. Motion does not exist without struggle between opposites, that is, without contradictions characteristic of all unity and serving as the internal source of movement of the development of the whole.

Further, Ya. A. Kronrod criticized the efforts of certain philosophers to reduce all the contradictions in socialist society to the struggle of the old with the new, of the positive with the negative. True reality displays no small number of contradictions (abstract and concrete labor, value and use value, production and consumption, mental labor and physical labor, etc.) which cannot be reduced to the struggle of the progressive and the backward.

The categories and laws of economic science, Comrade Kronrod said in conclusion, must be studied as the real forms of expression and of movement of contradictions. Therein lies the methodological foundation of the political economy of socialism, and the essential of its successful progress.

K. A. Meshkauskas, Candidate in Economic Sciences, employed the example of the Lithuanian Soviet Socialist Republic to show how the economy is transformed and the culture of the national republics of the Soviet Union flourishes in the process of the building of the basis of communism in material production.

Lithuania was an agrarian appendage of the developed capitalist countries of Europe. Although Lithuania enjoyed independence pro forma, in actuality, because of its economic backwardness, it was completely subordinated to the imperialist powers.

Under the conditions of socialism, Soviet Lithuania is successfully overcoming its former economic backwardness. Industrialization of the Republic, and the socialist transformation of agriculture, have made for a turbulent increase in the forces of production, and a rapid rise in the material and cultural living standard of the people. The development of Soviet Lithuania is a bright manifestation of the enormous advantages of the socialist system of economy. It serves as one of the proofs of the fact that only on the basis of the Leninist principles of organization of the socialist economy is it possible to achieve real successes in the development of the economy and the culture of the national republics. Consistent realization of the principle of democratic centralism in the leadership of the economy, which assumes the strengthening of the unified planned foundation of the development of the entire national economy, and simultaneously, maximum encouragement to the initiative in the localities, harmonious coordination of the interests of the entire country and the interests of each republic; this is a major source of the acceleration of the movement of our country to communism.

At the present stage of development of the Soviet socialist economy, Comrade Meshkauskas noted, it is of increasing importance that all the districts of the country be enabled to participate in expanded socialist reproduction on the basis of effective utilization of their natural and labor resources, and of correct specialization and complex development of their economies. Under these conditions Soviet economics faces the problem of a further profound elaboration of the scientific foundations of national economic planning and, in particular, the planning of the all-around development of the economies of the various districts with due consideration for the specific features of industry and other branches of the economy, peculiarities of historical development and of the traditional skills of the population, the division of labor that has come into being among the various economic districts and the perspectives for the development thereof. The national economy of the Lithuanian Soviet Socialist Republic faces important problems: to develop the existing branches of industry at even higher rates, to create new branches of production corresponding to local conditions and properly to coordinate the development of industry and agriculture and of heavy and light industry. The economic scientists of the Lithuanian Soviet Socialist Republic, Comrade Meshkauskas said in conclusion, strive to assist in the successful fulfillment of the problems of all-round development of the national economy of the Republic, thus making a contribution within their means to the solution of the theoretical and practical problems of the upbuilding of the basis for communism in material production.

Marxism-Leninism, said D. Kshibekov, Candidate in Philosophical Sciences (Academy of Sciences of the Kazakh Soviet Socialist Republic) regards collective farm property as an historical phenomena. This form of socialist property must rise to the level of general public property during the period of gradual transition to communism. The February 1958 Plenary Meeting of the Central Committee of the Communist Party of the Soviet Union showed that this problem can be solved only along the lines of the utmost strengthening of collective farm socialist property. The measures to reorganize the machine and tractor stations, and for further development of the collective farming system outlined by that meeting and now being carried out in life, will lead to an even fuller socialization of all the branches of agricultural production. At present it is the production of grain and industrial crops that have been socialized for the most part in the collective farms. The share of the collective farmers' private holdings is still quite great in such important branches as livestock raising and vegetable growing. An abundance of products of agriculture and livestock raising constitute a prerequisite for complete socialization of all the branches of agricultural production. When the socialized economy of the collective farms is in a position adequately to satisfy the needs of the collective farmers for all produce, the need for their private plots will disappear. The sale of the agricultural machinery to the collective farms makes possible a more rapid development of a many-sided socialized economy on the basis of mechanization and electrification of the processes of production in cattle raising, vegetable growing, and other fields. And in so doing, the measures for the reorganization of the machine and tractor station will make for an increase in the role of the socialized economy in satisfying the needs of the collective farmer The perspectives envisioned for the development of the village are of theoretical and practical importance to the upbuilding of communism. Marxism-Leninism teaches that under communism the present differences between city and countryside will be overcome. As progress towa communism continues, the conditions of life and the livin standard of the village population will approximate those of the population of the cities, and farm labor will be converted into a variety of industrial labor. In this connecti the question arises as to the type of settlement to exist in agricultural localities, and the prospects for the devel ment of the villages in the period of transition to communism. The foundation for the upbuilding of communism i the countryside, Comrade Kshibekov emphasized, is the development of the forces of production of the collective farms. In addition, the attention of economists and philos phers must be given to problems of improving conditions of life and living standards in the villages. Of much importance is civic improvement and the planting of greene in the villages, and the building of roads in rural areas. An upsurge in the economies of the collective farms will facilitate practical solution of these problems.

V. P. Dyachenko, Corresponding Member of the Acade of Sciences of the USSR, devoted his paper to problems related to the prospects for the development of monetary and commodity relationships in the period of the gradual transition from socialism to communism. In his opinion, the causes for the existence of commodity and monetary relationships under socialism are the same as those whi underlie the need for the socialist principle “From each according to his abilities, to each according to his work. In this connection, he paused to analyze this formulation. This formulation has recently come to be the cause of doubt on the part of certain economists. They assert tha the first portion of this formula “From each according t his abilities...” is applicable only to the highest stage of communism. In the opinion of Comrade Dyachenko, to re duce the formula for socialism to its second portion mak it one-sided and distributive in meaning. Such a formula (“To each according to his labor”) does not express the relationship of people in social production, as that which is decisive in such relationship is their participation not in the distribution of consumer goods and services, but the creation of the social product, not processes of distribution but processes of production.

V. P. Dyachenko believes that under socialism measur should be, and are being, taken to facilitate the participation of every member of society in the social labor proc in accordance with his ability. No doubt the conditions, the motivations, and the completeness of realization of the principle “From each according to his abilities” und socialism and under communism are different. In the higher phase of communist society, each will work in accordance with his abilities because labor will be the firs necessity of life. Under socialism this is not yet the cas Here, in order to cause each to give in accordance with his abilities, there is need for material stimuli, and for the day-to-day work of education of the Communist Part the Soviet Government, and of public societies.

Inasmuch as the formulation for socialism “From eac according to his abilities, to each according to his work” is conditioned by the same causes that give rise to commodity and money relationships, the prospects for the development of commodity production during the period of the upbuilding of communism are intimately interrela th transition from this formulation to the formulation r communism. The relationship between the two forms socialist property is also a factor determining the connt and perspectives for the development of commodity and onetary relationships in the national economy of the USSR. ie development of both forms of socialist property will, in e future, take place in most intimate relationship with each her, with government socialist property playing the leading le. At a given stage in the development of socialism, both rms of property will merge into a single form of public mmunist property.

Proceeding from these assumptions, V. P. Dyachenko exessed his views on the prospects for the development of mmodity and monetary relationships in the period of gradl transition from socialism to communism. Commodity d monetary relationships will continue until the principle communism "From each according to his abilities, to ch according to his needs" is realized in life. They will rendered obsolete and will die out in the process of ansition to distribution in accordance with need. As the vernment and the collective farm and cooperative forms socialist property develop into a unified general public mmunist property, and as gradual transition from the inciple of socialism to the principle of communism conue, the content of the commodity and monetary relationips will change. The development of the personnel of terprises in the publicly-owned sector of production, the dependence of the enterprises in the assignment and use the resources under their control, and in the posing and lution of current problems of their daily activity, should accompanied by a wider utilization of commodity and oney forms of relationships among these enterprises. ntralized planned leadership will be realized to an ever eater degree through cost evaluation of the results of ecomic activity. At the same time, the network of purchase d supply units should be expanded and improved, as these ll, to an ever-greater degree, assure complete and uninrrupted satisfaction of the needs of each enterprise for all uipment and means of production required for its activies.

A more complete and consistent realization of the prinple of socialism "From each according to his ability, to ch according to his work" will be accompanied by further solescence of sources of income from causes other than bor. An abundance of products in the government and coerative system of merchandising will eliminate the possility of speculation. The movement of money will come ore and more to be limited by the bounds of circulation, suance of wages, and payment for commodities in governent and cooperative stores. Thus money will come ineasingly to approximate in meaning a labor chit confirmg the participation of individual citizens in the social ocess of labor, and the right to obtain a corresponding are of the social product. Subsequently, an ever-increasg portion of the social product will be issued without exange of any kind against these chits, and in accordance th need. Money will thus die out even in this changed connt. From this, in Comrade Dyachenko's opinion, there folvs the conclusion that there is no basis for assuming that stage of direct exchange of products has to exist at some nt along the course of transition to communist distribun in accordance with need. The problem to be solved is that of limiting commodity and money relationships, not seeking ways of substituting direct product exchange for m, but of correctly developing these relationships, hav in view their gradual transformation into relationships direct communist distribution in accordance with needs.

One of the most important conditions for successful development of the socialist economy, said G. A. Prudensky, Corresponding Member of the Academy of Sciences of the USSR, in his speech, is a proper organization of the wage system. Some economists are advancing the idea of reorganizing the system of premiums in such fashion as to cause the size of the premium to be determined (given fulfillment of the production schedule) by the accomplishments of the collective in improving the qualitative indices of the work of the enterprise. In general, in Comrade Prudensky's opinion, this thought is correct, but the specific features of the various fields of industry must be taken into consideration. Thus under the conditions of the present day when the volume of production in raw materials-producing industries is inadequate and restrains the development of other branches, the planning of the system of premiums in the raw material branches should primarily stimulate fulfillment and over-fulfillment of plan as to volume of production. We have learned, in practice, that the most effective systems of premiums are those that combine rewards for fulfillment for the plan of production, and those for improvement of qualitative factors.

The problem of finding and utilizing additional resources within the field of production itself has been inadequately elaborated in the science of economics. Yet the internal resources of production constitute one of the most important sources of progressive development of the socialist economy. It is sufficient to point out that 70 to 80% of the increase in the productivity of labor is usually due to utilization of resources within production. Life gives rise to many forms of discovery of such reserves, of elimination of losses and of unproductive expenditure in the national economy. Large-scale institution of progressive methods of organization of labor, of modern techniques, and the mastery of new equipment contain vast possibilities for the growth and perfection of socialist production. It is necessary to generalize the experience of production and to undertake more boldly a study of new and burning problems advanced by practice in production.

The question of work quotas, without which a system of planned economy is unthinkable, G. A. Prudensky continued, has also not been developed in theory to an adequate degree. The absence of sufficiently precise methodological points of departure as to work quotas, their forms, and the principles of determination thereof, markedly complicates the solution of practical questions. In accordance with data for 1957, there are more than 19 million different work quotas for labor, including over 15 million in the machinery manufacturing industries alone. The problem of developing and adopting technically-founded quotas covering series of operations is immediate. The solution of this problem requires elaboration of a series of problems of method. If the work of setting up technical standards is carried out by the old method, an enormous army of quota setters will be required. [Translators note: According to the Large Soviet Encyclopedia, technical quotas are quotas based on the possibilities inherent in the equipment being used as contrasted to quotas based on the average actual production of workers in the field.]

Comrade Prudensky noted that the progress of modern technology leads to a gradual reduction in differences between the levels of qualification of workers carrying out different operations in any given labor process. In accordance with this tendency, the bringing of order into the wage system should be accompanied by a reduction in the number of skilled classifications, and an increase in the base pay to Grade I, which would eliminate the extreme differentiation in payment to workers of different levels of skill.

The problem of working time, which is dealt with profoundly in the works of the classical writers of Marxism, is today unfortunately only rarely an object of economic research. Comrade Prudensky expressed the opinion that a most careful study of work-time budgets be examined, and of the work-time balance of non-productive losses, and also the question of free time. These constitute one of the most important problems of the upbuilding of communism. Only on the basis of an all-around study of the problems of working time is it possible to make a deep investigation of the main problem of the transition to communism, the problem of increasing labor productivity. In conclusion, Comrade Prudensky emphasized that successful elaboration of theoretical problems must be based on concrete economic investigations in individual branches of the national economy. A closer connection between theoretical works and works in branches of the economy is necessary.

G. T. Kovalevsky, Candidate in Economic Sciences (Academy of Sciences of the Byelorussian Soviet Socialist Republic), detailed certain problems related to a description of the economic essence of the indivisible fund of the collective farm, and the perspectives for elevating collective farm and cooperative property to the level of general public property. Expressing agreement with Academician Pershin to the effect that the indivisible funds constitute that portion of collective farm property which approximates general public property, Comrade Kovalevsky emphasized at the same time that it would be premature to consider these funds to be general public property. In clasifying the economic essence of the indivisible funds of the collective farm, it is necessary in the first place to proceed from the nature of the relationships arising among human beings in respect to the means of production, and expressed in the conditions of ownership and disposition of these means of production. The fact that the indivisible funds come into being primarily out of government-owned means, although it is of very great importance, neverthless does not change the nature of the holding and distribution of these means. Regardless of whether the indivisible funds come into being out of government means or out of accumulations within the collective farms, they continue to be collective farm property. To proclaim collective farm means of production to be government public property would be in essence to convert the collective farms into government undertakings, and this would contradict the main line for further development of the collective farm system elaborated by the February Plenary Meeting of the Central Committee of the Communist Party of the Soviet Union.

It would also be wrong to regard the indivisible funds of the collective farms as a special form of general public property, distinct from the government form of property. In the first place, under present day conditions the general public interest cannot be expressed in any way except through government. In the second place, to proclaim the indivisible funds to be a special non-governmental form of general public property would mean that a certain portion of general public property is in the possession of individual collectives. Such a concept, in the opinion of Comrade Kovalevsky, is in contradictory to Marxist-Leninist theory. The concept to the effect that the indivisible funds of the collective farms approximate general public property, accurately characterizes the trend of development of collective farm property. However, it is impossible to draw the conclusion that conversion of indivisible funds into general public property is already an accomplished fact.

Further, Comrade Kovalevsky proceeded to the question of the perspectives for the merger of government and collective forms of property into a single general public form of property. In accordance with his hypothesis, this proc ess may come to completion considerably before full con munism has been built. Comrade Kovalevsky believes tha cooperative economies will, even in the socialist stage, undergo conversion into government general public enter prises. The conversion of collective farms into state far is today not the main line of development, not because thi direction is impossible and incorrect in general, but beca at present the level of development of the productive forc in agriculture does not as yet make it possible to carry out such a measure, inasmuch as the collective farms have, the present stage, not exhausted their possibilities for fu ther development. In a longer perspective, in Comrade Kovalevsky's opinion, but still within the socialist stage, question of conversion of collective farms into state prop may arise. In proof of his thoughts he cited the fact of co version of a considerable proportion of handicraft cooper tive enterprises into government-owned enterprises.

Comrade Kovalevsky expressed diagreement with the p posal of S. G. Strumilin (Problems of Economics, No. 5, 1958) to create unions of collective farmers on a country regional, and republic-wide scale, and also an All-Union Collective Farmers' Union. The creation of two parallel systems of administration of agriculture, one of government agencies for the leadership of the state farms, and cooperative system for administration of collective farm would not make for successful development of agriculture but would only complicate the job of administration of agr culture as a whole. S. G. Strumilin supports his proposal for the creation of a system of unions of collective farms by the need for regulation and distribution of the incomes of the individual collective farms, in connection with possible natural calamities, and the differences in the natura economic conditions in the various districts and zones of the country. However, in the opinion of Comrade Kovalev sky, such regulation and granting of aid to individual far can be carried out by the government purchase and credi and budgeting systems.

V. Ya. Aboltin, Doctor of Economic Sciences, dealt wit the question of economic relationships of socialist countr with the capitalist world during a period of gradual trans tion to communism.

The international situation has a major effect on the co ditions for the building of communism. The policies of th socialist countries are founded, as we know, on the Leninis principle of peaceful coexistence of states with different social and economic systems. This peaceful coexistence assumes development of economic collaboration between countries with different systems on the basis of mutual benefit. The development of economic bonds has a creati effect on the political relationship between states. Where mutually advantageous economic relationships develop, h tility and lack of confidence are absent, tension is reduce and the forces of the Cold War are displaced. Peaceful i national relationships make it possible to concentrate a maximum of means and forces upon economic and cultura upbuilding, and to reduce to a minimum the means drawn off for defense, and to create conditions favorable to acceleration of the rates of construction of communist soci

In addition to influencing political relationships, economic relationships with capitalist countries have a dire economic significance for the upbuilding of the economic basis of communism. The teachings of Marxism-Leninis refute the theory of autarchy, as they do all theories of t declining significance of the external market. Communis have always been, and remain, partisans of an intelligent utilization of the economic advantages arising out of the vision of labor among the various nations.

The consistent foreign policy of the socialist countries, d the victories of socialism in economic upbuilding, as ell as the outstanding achievements of technical and scienic progress, taken together create favorable prospects for e normalization of the international situation and the delopment of rounded economic bonds with the capitalist untries.

The initiators of the Cold War hoped that economic blocke, and the compulsion of an arms race due to a course sed on balancing on the brink of war, would enable them exhaust and destroy the economy of the Soviet Union and e other socialist countries. But all these calculations oved to be fantasies and self-delusion. Today all clearaded politicians and representatives of business circles the capitalist world tend increasingly to the idea of the ed to replace the policy of the Cold War by a policy based peaceful coexistence and the development of normal ecomic bonds. Despite the efforts of the propagandists of the old War, healthy economic collaboration among countries the two systems is finding its way. Thus commodity exange between the countries of Eastern and Western Europe ubled from 1950 to 1956. The percentage of trade with pitalist countries in the total foreign trade of the Soviet ion rose from 19 per cent in 1950 to 24 per cent in 1956. rade with the underdeveloped countries has undergone exptional strides, increasing fivefold from 1953 to 1957. The velopment of economic bonds between the countries of the o systems is the foundation for the normalization of the ternational situation.

The social sciences, said V. Ya. Aboltin in conclusion, ust strengthen the elaboration of problems having to do th peaceful coexistence and economic collaboration of ates with different social and economic systems.

The problem of gradual transition to communism, it was ted by Comrade Aminov, Doctor of Economic Sciences cademy of Sciences of the Uzbek Soviet Socialist Repubc), will be solved jointly by all the peoples of our country. ne principles and paths to be followed in the upbuilding of mmunism are the same for all nations. However, the fact at the process of transition to communism in the national publics has certain specific peculiarities and difficulties ust not be left out of consideration.

Unfortunately the meeting has not seen adequate illuminan of problems of national statehood, languages, national ltures, and so forth, in the epoch of the upbuilding of comunism. However, these problems deserve more attention. major objective of the upbuilding of communism is the fi- l overcoming of the residue of past backwardness, ecomic, technical, and cultural, of many peoples in our couny, and particularly those of Central Asia. These residues ill remain. It is impossible, for example, to close one's es to the fact that certain industrial enterprises in the ntral Asian republics still lag behind those of the central dustrial districts in the nature of their equipment. Nor ve the remnants of irrational distribution of the forces of oduction been completely overcome. Thus, in the Uzbek viet Socialist Republic, Tashkent and Tashkent Region nstitute a very large center of industry. However, many her regions of the Republic — Surkhan-Daryinskaya, shka-Daryinskaya, Bukhara, have lagged in their indusial developments. Large resources of petroleum and exaordinary deposits of natural gas recently found in the cinity of Bukhara open grandiose prospects for the indusial development of the entire southeast of the Uzbek Reblic. It is necessary to proceed more rapidly to develop ese resources.

Overcoming of residues of the past in the way of life of the oples, religious hangovers, etc., should be based primarily on the development of heavy industry. It is easier to solve problems of urban and kishlad[Translator's note: the native villages] development in connection with industrial construction. Therefore, the problem of more rapid rates of industrial development, and of further industrialization of the republics of the east, is most pressing in the period of gradual transition to communism.

Comrade Aminov posed the question of coordinating the efforts of the Central Asian Republics in complex utilization of the productive forces of the Central Asian Economic District, and in particular, in the use of land, water, and hydroelectric resources. This would open wide possibilities for accelerated economic development of the eastern republics. In this connection, the need arises to coordinate scientific investigation by the Academies of Science of the Central Asian Republics.

Ts. A. Stepanian, Doctor of Philosophy, devoted his speech primarily to the question of contradiction in the development of socialist society. Previously, he said, many of our philosophers and economists avoided the basic contradictions in the development of socialist society, and tried in every way to avoid the very concept of "contradiction." The philosophical discussion of the contradictions in socialist society, and the methods of solving them on the way to communism — a discussion that has been under way for three years — is of value in overcoming these metaphysical views. With regard to the remarks of Ya. A. Kronrod, Comrade Stepanian noted that that which was positive in this speech was the recognition of the existence of significant contradictions in the development of socialism. However, in the opinion of Ts. A. Stepanian, Comrade Kronrod stopped halfway: he did not recognize the existence of the main contradiction in the system of contradictions of socialism. This point of view is not consistent.

Comrade Stepanian contends that the main contradiction of the socialist means of production is that between the constantly increasing needs of the people, and the level of production of material and cultural services already attained. This fundamental contradiction gives rise to the need for creating a highly developed material and technological basis for social production and the attainment of high labor productivity. The fundamental contradiction of socialism expresses the advantage of this system of production over capitalism.

Under the conditions of the communist form of society, the expression of contradictions will change in appearance. If, in class societies, the contradictions took the form of social contradictions, under socialism, the contradictions objectively in existence and functioning, are expressed in the form of the struggle of different tendencies, although the fundamental interests of the people are unified. A failure to understand, or ignoring of new forms of manifestation of contradictions under the conditions of gradual transition to communism, has given rise to two serious mistakes. Some comrades, who identify contradictions with social conflict, come to the conclusion that inasmuch as our country has seen the elimination of antagonistic classes, all contradictions have disappeared therein. This is, in essence, a revision of the fundamental concept of the Marxist dialectic, and a negation of contradictions as a source of development. On the other hand, there are some economists and philosophers who assert that socialism contributes nothing essentially new to the dialectics of social development, and that not only contradictions but antagonisms too appear under socialism. An example of this dogmatism is the counterposing of the two forms of socialist property.

The Central Committee of our Party, which applies and develops Marxist-Leninist theory, has presented an example of how one should proceed to discover contradictions in the development of socialist society, and has solved them in time, thus accelerating our progress toward communism. The reorganization of the machine and tractor stations solved a growing contradiction in the development of the collective farm system. At the same time this progressive measure leads to the appearance of a new contradiction between the growing public nature of the indivisible funds and the collective form in which they are expressed. This contradiction will be overcome after the necessary prerequisites have been prepared. The difference between the forms of property will disappear completely when the communist principle of "From each according to his abilities, to each according to his needs" will triumph.

Further, Comrade Stepanian proceeded to examine the problems of transformation of the socialist principle of distribution into the communist principle. More than ten years ago the concept was expressed that at a given stage of the development of communism, the two principles of distribution will temporarily coexist. This thought was then criticized. However, analysis of the current experience of the upbuilding of communism permits the conclusion to be drawn that coexistence of the two principles of distribution will apparently prove necessary as a factor in the process of transformation of socialist society into communist. A wise coordination of two inseparably interlinked contradictory tendencies in the development of socialism, the consistent realization of the principle of material self-interest, and the preparation of material conditions for the provision of complete equality, is applied by the Communist Party to achieve a gradual modification of the spread in the payment of labor. When complete abundance of material and cultural services is assured, a new contradiction will arise between the higher level of satisfaction of the needs of all members of society and the system of distribution through trade. At this level, a gradual dying away of money and commerce will begin, and a period of the temporary coexistence of the two principles of distribution will set in.

In conclusion Comrade Stepanian observed that under the conditions of the existence of a world system of socialism, a new problem arises. Will the gradual transition to communism be realized by different countries in accordance with the level of development of the productive forces attained by them, or will this process be a common one for the entire socialist fellowship of nations? Inasmuch as socialism overcomes the former inequality in the economic development of states, the socialist countries will enter communism along a single front, but possibly by economic zones.

M. Ya. Sonin, Candidate in Economic Sciences, devoted himself to the problems of and directions to be taken in development of the cultural and technical standards of the working people, and the elimination, on the basis thereof, of the existing differences between mental and physical labor. Technical progress leads, at the present stage of development, to a combination of process procedures. The machine performing a single operation is yielding increasingly to all kinds of multi-purpose equipment, and individual machines are being replaced by automatic lines. With technology developing in this direction, the differences between various types of labor are progressively being eliminated. The simplest example of this is that of the self-propelled chassis used to haul various types of agricultural equipment. In order for the self-propelled chassis to be used most productively, it is necessary to train not workers of specialized skills (tractor operators, combine operators, etc.), but machine operators capable of handling any individual agricultural machine.

As a result of technical progress, the share of workers of "universal" skills, meaning skills required in all branc es of industry, increases. It has been calculated approximately that the percentage of such workers in industry, c struction, and transport is today about one-third of the to number of listed types of jobs, and more than 60 per cent of the total number of persons employed. Today's narrow specialization came into being on the foundation of a detailed breakdown of the processes of production. Today t breakdown of workers by skills no longer corresponds to the need for the improvement of technology and machiner This is particularly clearly manifested in the most advan fields, and particularly in the aviation industry.

Expansion of the professional knowledge of the workers presupposes an increase in their general educational leve During the years of Soviet power, a genuine cultural revo tion has taken place in the country. However, transition t communism requires the realization of a fantastic progra of further uplift of the general educational level of the pe ple, and also of expansion and improvement of specialize education. Comrade Sonin adduced a series of data showi the changes in the general educational level of the worker in the USSR during the past three decades, and calculatio revealing the enormous scale of work to be done to raise the general educational level of the workers to the level technical and agricultural expert personnel. An importan role in the uplift of the cultural and technical level of the working people will be played by the reorganization of the higher schools. It should be noted that in some schools the development of habits of socially useful labor among students is being carried out in such a fashion as to hurt the general educational training. The reorganization of the schools on the basis of polytechnicalization must provide that training in skills is harmoniously coordinated with i provement in the general educational level of training of the students.

Comrade Sonin also dealt with the question raised at th session of the fundamental principle of socialism "From each according to his abilities, to each according to his work." He associated himself with the point of view that under socialism the formula "From each according to his abilities" cannot be fully realized. This is explained not only by the inadequate level of consciousness of the mem of socialist society, but also by the conditions of division labor in accordance with skills during the socialist stage

A. I. Pashkov, Corresponding Member of the Academy Sciences of the USSR, expressed disagreement with the a sertion that the formula "From each according to his abi ties" is inapplicable to socialism. To deny the correctne of this formula for the first stage of communism means to take into consideration the enormous changes in the na ture of social labor under socialism as compared with ca talism. Under capitalism, a considerable portion of the population is unable to realize its ability to work. On the one hand, the ruling classes do not participate in social l bor, and live at the expense of others; on the other hand, portion of the working people is condemned to unemployment, and those who do work are usually occupied not at that which they are most able to do in accordance with their physical, mental and other characteristics, but in things that more or less accidentally fall to their share.

Under socialism the formula "From each according to abilities" is a re-phrasing of the universality of labor, o the fact that it is compulsory for all persons capable of working, in accordance with the principle "He who works not, neither shall he eat." Society demands of each perso that he work to the fullest degree in accordance with his abilities, and facilitate the most complete development o ose abilities. The very matter of payment on accordance ith work is a powerful lever in favor of realization of the rinciple "From each according to his abilities." It is undertood that, under communism, the abilities of people will ower even more fully, and the utilization of abilities in the terest of society will be more complete.

A. I. Pashkov emphasized that the theoretical examination f the problems of transition to communism includes an nalysis of the system of social relationships under socialsm, and the economic laws of development of the socialist ethod of production. The laws of socialism are, at the ame time, laws of gradual transition from socialism to ommunism.

One cannot agree, continued A. I. Pashkov, with the opinon of Comrade Kronrod that the definition of the production elationships under socialism as relationships of comradely ooperation and socialist mutual aid among people free of xploitation is, as it were, not an economic, not a scientific efinition, but a moral and ethical definition of significance urely for propaganda purposes. Comrade Pashkov believes hat this formulation is a scientific definition of the most nportant, most characteristic factor in the production reationships of socialism, and of that which fundamentally ifferentiates the production relationships of socialism rom the production relationships of capitalism and other ocial-economic formations founded on exploitation.

The formulation of J. V. Stalin that the production relaonships under socialism are relationships of comradely ollaboration and mutual aid among people free of exploitaon, has come to be firmly rooted in scientific terminology. is precisely these words that express the fundamental haracteristic and the essence of the relationships among eople at socialist enterprises, relationships between the orking class and the collective farm peasantry, between he nations of the Soviet Union, and between the countries f the socialist camp. This characterization of the fundanental factor in the production relationships of socialism nust be included in the formulation of the basic economic w of socialism.

Our economic literature does not, as yet, provide suffiient clarity as to what should be understood as the basic conomic law of society. A scientific definition of the basic conomic law, in the opinion of A. I. Pashkov, should meet he following methodological requirements: the basic ecoomic law, like every other law expresses not all the charcteristics and symptoms of relationships of production, but nly one sign, one characteristic. Unlike all other laws, the ndamental law reflects the fundamental characteristic, the ajor sign symbolizing the relationships of production of he given form of society. The basic economic law includes characterization of the objectives of production, and this of great significance, but is not the main content of the asic law. In class society, the basic economic law expresss the most important relationships of production of the mar classes, the basic contradiction in the method of producon. The fundamental law remains unchanged during all ages of development of the given form of society, although e concrete forms of its manifestation do change.

The formulation of the fundamental economic law of soalism given by J. V. Stalin does not correspond to these ethodological requirements. In his formulation, chief nphasis is upon a characterization of the objectives of soalist production, its difference in principle from the objecves of capitalist production, but it does not give a definin of the basic sign, the fundamental characteristic of the oduction relationships of socialism. In this formulation, nphasis is upon consumption, while the basic law of socialm should be the law of socialist production. In the formulation of J. V. Stalin, the fundamental law of socialism looks more like a summation of various laws of socialism.

A. I. Pashkov proposed the following formulation of the fundamental economic law of socialism, which, in his opinion, would meet the methodological requirements previously listed. The economic law of socialism is the law of the comradely collaboration and socialist mutual aid of persons free of exploitation in the production of goods for the most complete satisfaction of the constantly rising demands of society as a whole. Comrade Pashkov emphasized that the formulation he advances is only tentative, but that in his opinion, efforts at a correct and scientific formula for the fundamental economic law of socialism should procced in this direction.

N. A. Tsagolov, Doctor of Economic Sciences, expressed disagreement with I. D. Laptev, and other speakers and participants in the discussion, to the effect that the fundamental expression of the transition from socialism to communism is the elimination of class contradictions. To characterize the present stage of the development of socialism, of course, it is exceedingly important to recognize that this is a classless society. However, no one has proved that the existence of two classes is essential along the entire course of development of socialism. It is most probable that the development of the lower and higher stages of communism will be expressed in the differences in the principle of distribution, in accordance with labor under socialism, and in accordance with need under communism. It is impossible to understand why the wiping out of class differences can occur only at that stage when an abundance of material goods is attained, and the communist principle of distribution is realized terefrom.

Also unproved, in the opinion of N. A. Tsagolov, is the proposition to the effect that socialism, during all stages of its development, must necessarily assume the presence of two forms of property. The economic difference between two forms of property is expressed in various forms of action of the socialist forms of production, distribution and exchange. Thus the forms in which collective farm and cooperative and state enterprises are embraced in the government plans for the development of the economy differ significantly. The form in which the law of distribution in accordance with labor as expressed in the collective farms also differs from the form in which this same law is expressed in government-owned enterprises. The distribution and utilization of the surplus product in cooperative production has a different character than in the government-owned public sector. One cannot understand why these differences must necessarily be retained during the entire period of development of socialism.

Experience shows that both the government public form of property and the cooperative and collective form of property are progressing. The sale of machinery to the collective farms constitute a significant change in the system of production relationships, approximating the collective farm form of production to state and public production. The new forms of distribution in the collective farms, including the forms of fixing of payment, testify to changes in the production relationships, although formally property remains the same. Economists must study property in its concrete manifestations, in the forms of relationships of production, in the relationships to distribution, in the relationships of exchange. Further growth in the productive forces of socialism will call forth new changes in the system of production relationships (not necessarily simultaneous with changes in the juridical forms of expression of property). These changes can only go in the direction of approximation of the two forms of socialist property, of the two forms of socialist production.

The collective farm and cooperative form of production, at the present stage of development, makes for the most effective utilization of all the resources of socialist agricultural production. Therefore, the strengthening of this form of property is today one of the most important problems before us. The strengthening of collective farm production, and the development of its productive forces, is the road to be followed in the uplift of the collective form of property, its approximation to the government general public form of property.

The socialist principle of distribution in accordance with work, characterizing the lower phase of communism as distinct from its higher phase, does not arise out of the two forms of property. A merger of these two forms would, in itself, not mean the substitution of the communist principle of distribution in accordance with need for the socialist principle of distribution in accordance with work.

In addition to the differences between town and city, between the government owned sector of production and the collective farm and cooperative sector, the government-owned public sector also displays differences, the existence of which do not presuppose the presence of two forms of property. The matter at issue is the difference between mental and physical labor, and between more and less skilled work. These differences are determined by a given level of development of the forces of production, and are completely comprehensible within the framework of a single, general public form of property.

Therefore, Comrade Tsagolov said in conclusion, the thesis to the effect that the merger of the forms of socialist property must occur outside the framework of socialism requires more convincing support than the arguments hitherto presented.

The following delivered closing remarks in the subjects previously covered in their own reports: P. S. Romashkin, I. B. Laptev, P. N. Fedoseyev, and K. V. Ostrovityanov.

P. S. Romashkin answered the critical observations of participants in the meeting on his report, and advanced certain further considerations in support of his position on the question of the functions of the socialist state.

I. B. Laptev criticized the assertion of Comrade Tsagolov to the effect that the existence of two forms of property and two classes is not the distinctive characteristic of the socialist stage of the development of society. Comrade Laptev considers such an assertion to be fundamentally wrong. The question as to whether two forms of property and two classes exist under socialism has long since been solved by Marxist science, and there is no need to open a discussion thereof.

In replying to the remarks of Academician V. S. Nemchinov on questions of distributions of income in collective farms and calculation of costs of collective farm production, I. B. Laptev defended the position put forth in his paper.

In dealing with the observations of participants in the session on the question of the prospects for the development of two forms of socialist property, I. B. Laptev emphasized that the process of approximation of collective farm property to the level of general public property is not one based on converting it to government property. This process leads to a situation in which the indivisible funds that already serve important general public functions, gradually approximate in content general public property. The organization of social labor changes in the collective farms, and it comes more and more to be organized along the line of labor in the state farms. Finally, the forms of payment to labor in the collective farms change and approximate the forms of payment of labor in government-owned enterprises. All this characterizes the process of development of collective farm property along the road to communism.

P. N. Fedoseyev declared that it is impossible to agre with the proposition of Comrade Kronrod as to the defini of the relationships of production under socialism. To d fine the relationships of production is to formulate the fu mental characteristics of an economic stage of society. Marx wrote of the typical characteristics of the commun stage, he noted above all that communism is a society of freely-associated producers. The definition of the relationships of production criticized by Comrade Kronrod characterizes that which is most important: the absence socialist society of exploitation and the friendly collabor tion of freely-associated producers. Of course, J. V. Stal formulation may be developed and perfected. But, in gen eral, it provides a correct characterization of the relati ships of production under socialism.

Further, P. N. Fedoseyev advanced certain additional proofs in support of the thesis advanced in his paper to t effect that contradictions exist under socialism between tendency to the attainment of complete real equality in di tribution, and the need to strengthen the principle of mat rial self-interest.

Proceeding to an examination of the proposition expre ed at the session to the effect that collective farm prope cannot grow over into government property, Comrade Fe seyev remarked that this thesis is unarguable only if one speaks of the present form of socialist governmental pro erty. However, it is impossible to deny, in general, the possibility that various elements of collective farm and operative property will grow over into government prope Nor may one exclude in particular that the state may be preserved under communism in the light of external factors. In this case the general public communist property will be government property. In examining the perspecti of development of the two forms of property, the central question is the question of the relationship between gove ment and collective farm and cooperative forms of prope They cannot be examined in isolation from each other.

K. V. Ostrovityanov noted that the economic and philosophic literature has hitherto not dealt with the question the differences between the government socialist form o public property and the communist form of public proper However, in the light of the latest resolutions of the Part it has become clear that not only cooperative and collect farm, but government property must progress through a inite series of developments in order to be converted to communist property.

Among the positive results of this meeting should be noted the fact that questions of the development of the fo of property during the transition to communism were giv much attention.

In proceeding to the problem of the need for commodit production to exist under socialism, Academician Ostrov yanov said that it is difficult to understand the position o Comrade Dyachenko in this respect. On the one hand he clared that the reason for commodity and money relation ships under socialism is the same as the principle of socialism “From each according to his abilities, to each ac cording to his work;” but he did not say what this cause On the other hand he recognized two forms of property a the cause of commodity and monetary relationships. How ever, the principle of socialism in its formulation embra relationships to labor and distribution in accordance with labor. Nevertheless, commodity and property relationsh embrace the sphere of production, circulation, and distr tion of material wealth, and send their roots into the dep of history, having existed under various forms of society Therefore it is impossible to seek the cause of these eco mic categories reflecting the various aspects of the rela- nships of production on a single plane. In this connection must be borne in mind that the form of property in the eans of production determines the nature of production lationships as a whole, and consequently, the character of oor and the form of distribution as a portion of these re- ionships.

Also incorrect are efforts to analyze the causes giving se to the need for commodity and monetary relationships the basis only of relationships within a single form of operty, the government form of property. One should oceed, on the one hand, from the social division of labor, d on the other, from the forms of property and the means production. In this connection, the forms of property ust be examined in their interrelationship. Further, it is cessary to take into consideration not only the forms of operty existing within a socialist country, but the inter- lation among the countries of the socialist camp, and also tween the two systems — socialism and capitalism.

As far as the commodity nature of the means of produc- on is concerned, this is due to the unity of the socialist onomy and the interrelationship of the government form property with other forms of property; and also to the ecial features and internal requirements of development the government type of general public property itself. oth these causes have to be examined in their interrela- onship. Thus the material stimulus, and the principle of uivalence due to the special features of the government rm of public property, do not in themselves necessarily quire commodity and monetary forms. They may be alized, and are realized, not only in monetary forms but kind. However, under the conditions of existence of dif- rent forms of property and their interrelationship both thin a given socialist country and in its economic rela- onships with other countries, these principles are neces- rily realized primarily in monetary form. In examining e question of the monetary and commodity relationships, is absolutely necessary to take into consideration the ture of labor, not, however, as a cause giving rise to the lationships; for it must be remembered that the nature of oor is determined by the forms of ownership of the means production.

Further, Comrade Ostrovityanov proceeded to the ques- on of the principles of socialism and communism. The fferences between them cannot be reduced merely to stribution; and the qualitative differences in the relation- ips of workers to labor at the lower and higher phases communism cannot be ignored. Nor can the formulation "rom each according to his abilities" be examined as other form of the universality and obligatory nature of oor. The universality and obligatory nature of labor is pressed by the liquidation of unemployment, and the alization of the right to work. And work in accordance th one's ability is directly related to conversion of labor o the first necessity of life. Under socialism labor comes increasingly a matter of honor and a primary ne- ssity of life; and the number of workers who do work cording to their full abilities increases. However, under cialism labor has not yet become the first necessity of e for the entire mass of working people, and it is not by means all individuals who work to the full measure of ir abilities and strength. Therefore, it is necessary to tribute in accordance with labor, and much work must done by the Party and government to educate a commu- t attitude toward labor into the masses of the people, and struggle with remnants of capitalism in the consciousness of man. If labor had become the first necessity of life for all, and if all were working in accordance with their abilities, the need for material stimuli, and for distribution in accordance with the work would have disappeared. Consequently, only under the higher phase of communism will all work in accordance with their ability and receive in accordance with their needs.

K. V. Ostrovityanov criticized the assertion of Comrade Tsagolov to the effect that the major criterion for distinction between the lower and higher phases of communism must be regarded as the principle of distribution in accordance with need. Comrade Tsagolov, he said, contends, purely as an assertion and without proofs of any kind, that first, the difference between city and country must be eliminated, then the difference between mental and physical labor and all other differences giving rise to the need for distribution in accordance with work. Such a posing of the question is wrong because its partisans see the fundamental criterions for the differences between the two phases of communism not in the sphere of production, but in the sphere of distribution.

Today, the creation of the basis for communism in material production of goods is the primary task in the upbuilding of communism, and the most important stage in the creation of this foundation is the solution of the main economic task of the USSR. As the forces of production grow, and the basis for communism in material production is created, a gradual obsolescence of the differences between town and country, between the two forms of socialist property, between mental and physical labor will occur. Labor will increasingly become the first necessity of life, and an abundance of products needed for distribution in accordance with need will be produced. All these factors in the erection of a communist society are indissolubly interrelated, and therefore they cannot be examined in isolation from each other. Thus, for example, all-around mechanization and automation of production is a material and technological foundation for the transformation of agricultural labor into a variety of industrial labor, and consequently for the outliving of the existing differences between town and country. At the same time, it constitutes a basis for the outliving of the existing differences between mental and physical labor.

Inasmuch as we possess no data on the basis of which we may say which of the social differences characteristic of socialism will be eliminated first, and which later, guesses along these lines do not fall into the sphere of the problems before the social sciences today and demanding solution.

Dealing with the speech of Comrade Kronrod, K. V. Ostrovityanov emphasized, in speaking of the contradictions in socialist society one must not forget the unity of our planned economy based on social ownership of the means of production, the moral and political unity of our people, the unity of the entire socialist camp, as powerful factors in our advance to communism. After all, the essence of the Marxist dialectical method does not consist solely of the concept of contradiction, but includes unity attained as a result of the overcoming of contradictions.

The President of the USSR Academy of Sciences, Member of the Academy A. N. Nesmeyanov, summarized the session. He remarked upon the positive significance of the broad discussion by representatives of various branches of the social sciences as to questions of the upbuilding of communism, and emphasized the need for close collaboration between workers in the humanities and the natural sciences to elaborate problems of the upbuilding of communism.

DISCUSSIONS AND DELIBERATIONS

All-Union Scientific-Technical Conference on Problems of Determining the Economic Effectiveness of Capital Investments and New Techniques in the USSR National Economy

In June, 1958, an All-National Scientific-Technical Conference on Problems of Determining the Economic Effectiveness of Capital Investments and New Techniques in the USSR National Economy took place in Moscow.

The conference was open by Prof. I. D. Laptev, director of the Institute of Economics, the USSR Academy of Sciences. He emphasized that the conference would deal with one of the most important economic problems.

"Capital construction," said Comrade N. S. Khruschev in the report of the CC, CPSU, to the 20th Congress, "has great importance for the further development of industry and of the whole national economy. Now, when annual capital investments are reaching almost 200 billion rubles, we must give more attention to the problems of capital investments . . . I have in view the question of how to ensure the most effective utilization of the means appropriated for capital construction. . ."

Colossal investments, ensuring uninterrupted growth of the socialist economy during the period of the gradual transition from socialism to communism, are directed into those branches of the national economy (and above all heavy industry) whose rapid development determines in greatest measure the solution of the USSR's basic problem — to catch up with and surpass the most developed capitalist countries in per capita production of goods. The historical victories of the Soviet Union won during the 40 years of Soviet power in the field of economic construction prove that the basic direction of capital investment into the USSR's national economy was correct.

In the capitalist countries the flow of capital into individual branches of industry, capital construction and expansion of production, proceeds in a self-directing way and this process is determined by the fluctuations of prices and the competitive struggle for high monopolistic profits. Under socialism capital construction, ensuring expanded reproduction and the development of new technique, is based on the conscious use of the law of planned, proportional development of the socialist economy and of the law of value. The law of the planned, proportional development of the national economy demands a distribution of capital investment in which the proper ratio between the development of Departments I and II of the social product is preserved as well as the preferential growth of the production of means of production; also a proper ratio between industry and agriculture and their individual branches and in the development of rational economic ties between individual economic regions of the country.

The reorganization of management in industry and construction, carried out by the Party on the basis of the Leninist principle of democratic centralism, raised the creative activity of the masses and created conditions fo the further growth of industrial production. In connectio with this the problem of the effectiveness of capital inve ments acquires special importance for the economic cou cils. Capital investments in the economic-administrativ regions have to ensure an increasing level of specializat and cooperation in industry, the complex development of the regional economies and rationalization of the inte regional economic ties in the interests of the growth of Soviet economy as a whole.

The problem of the effectiveness of capital investmen is closely connected with knowledge of how to use the la of value. The law of value, functioning under socialism, demands that the production and realization of goods is carried out on the basis of the expenditure of socially ne cessary labor. It is precisely because of that that the working out of a method of determining the economic ef tiveness of capital investments under expanded reproduc and for use in the economic justification of the introduct of new and better production technology, acquires trem dous importance for the national economy.

Experience shows that not everything is all right in th field. The planning organs, the designing organizations, construction bureaus and industrial concerns have been guided for many year mainly by "natural" indices. The action of the law of value and economic indices of produc on that basis quite clearly have been neglected. As a re of this quite insufficient attention has been paid to such very important indices of production as the productivity labor, cost, and rentability.

The carrying out of the May (1958) decision of the CC Plenum, CPSU, on expediting the development of the che ical industry is of tremendous importance for further technical progress, for a considerable growth of labor p ductivity in all branches of the national economy and fo raising the material welfare of the people. The Plenum outlined a grandiose program for increasing production petroleum and natural gas and on this base, promoting t forced development of the key branches of the chemical industry and especially of the production of synthetic m terials and goods produced from them for the satisfacti of the needs of the population and of the national econon Capital investments for the solution of this problem in t next few years will amount to more than 100 billion rub For the preparation of the plan of development of the na tional economy for 1959-1965 and for the following peri the problem of the effectiveness of capital investments of new technique is of exceptionally great importance.

The task of this conference is to help to solve these questions in machine building, in mining, the productio raw materials, power, and other branches of heavy indu light industry, construction and railroad transport.

The historical decisions of the CP and of the governmen cerning the further development of the kolkhoz regime and reorganization of the MTS raise in a new way the question effectiveness of capital investments in the collective far in connection with their purchase of tractors and other a cultural machines. This question was discussed at the sc tific conference organized by the NIEI of the USSR State ning Commission and the Institute of Economics, USSR A emy of Sciences, which approved certain recommendati

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*[In view of the fact that the proceedings of this Conference were discussed in preceding issues of Voprosy Ekonomiki, some of the less important summaries have been omitted. Those cited have been translated in full.—Ed.]

Among research workers a long discussion has been
ing on about the basic criteria and indices for the
onomic effectiveness of capital investments and new
chnique. The present scientific-technical confer-
ice has as its purpose to sum up the results of
is discussion so that scientific and practical workers
n use them for the economic justification of capital
vestments in the national economy and for new tech-
que.

The main report, "The Economic Efficiency of Capital In-
stments in the USSR National Economy," was made by
ember-correspondent of the USSR Academy of Sciences,
S. Khachaturov (see his article on this problem in issue
o. 2 of Voprosy Ekonomiki 1957). Khachaturov said that
tely a certain narrowing of differences in respect to cer-
in aspects of this problem has taken place. Almost all
ecialists who have studied this question now recognize
at calculations of economic effectiveness should be based
the measurement of value, so far as the law of value
nctions under socialism. Compilation of the Provisional
ethod for the Calculation of the Economic Effectiveness of
apital Investments and of New Technique (which became
dely known and on the basis of which were prepared
andard methods for individual branches of industry) was
great step foreward. In that method the principle of the
eriod during which the capital investment pays for itself
as taken as a base. In preparing materials for this con-
rence an agreement on some general principles was
ached. The draft of the corresponding recommendations
r the solution of this problem is a result of settling the
fferences.

The highest criteria of the effectiveness of capital in-
estments is their contribution to the acceleration of the
onstruction of communist society. In order to reach the
ate of abundance in which all products will flow to the
arket as a broad river, we have to expand production by
l means, to raise constantly the productivity of labor.
ven the number of workers, the higher the productivity
social labor, the greater the volume of the product. In
espect to capital investments this means a more careful
ending of means in capital investments. But this is only
generally accepted formulation of the question. We still
ve to agree on the methods of how to calculate effective-
ess. Realization of these principles requires the proper
stribution of capital investments with due attention paid
the preferential growth of the means of production in
der to ensure the greatest expansion of the social product,
ving in view a certain perspective.

The proper distribution of capital investments between
anches can be obtained through the method of balances.
orking out a construction program starts with the
etermination of the possibilities of its maximal fulfillment
terms of the main indices and first of all in terms of
etals, building materials, then power, machine building,
oduction of consumption goods, etc. Consequently at the
rst stage of planning we have to ensure the best propor-
ons between Departments I and II of the national economy,
tween the key branches of each department on the basis
the method of balances.

The second stage of planning is the checking of the ob-
ined indices with value indices.

Up to now the importance of such checking was under-
timated and it was carried out perfunctorily. But the
alysis of a plan on the basis of value indices is extremely
portant because it allows us to solve the problem we set
r ourselves with the smallest expenditure of effort and
th the greatest economic effect. It is the value indices
ich make it possible to compare the expenditure of labor and determine its economic effectiveness in various branches of industry. Such a point of view brings out objections, the main gist of which are: we do not know the value, while our prices do not coincide with value. But our problem consists exactly in finding a theoretical and practical solution for determining effectiveness, given the existing system of prices, cost accounting and statistical data.

Now the majority of theoreticians and practical workers agree that calculations of effectiveness should be made on the basis of the period during which the capital investment pays for itself or according to its reverse quantity — the coefficient of effectiveness. Such a comparison is based on a comparison of the expenditure of past and present labor. The periods during which capital investments pay for themselves are different in different branches: in power it varies from 16 to 17 years, in transport 10 years, in machine building and light industry from four to five years, etc. On the basis of the concrete materials we have to check up on these periods and then determine (in its value expression) the physical effectiveness of capital investments in the national economy as a whole and in individual branches. According to Khachaturov, the economic effectiveness of capital investments may be represented by the so-called coefficient of the absolute effectiveness of capital investments: the ratio of the increase in the net product to the capital investments made. This coefficient may be determined not only for the whole national economy, but also for the individual branches. However, in the last case the meaning of this coefficient, under the existing system of prices, will not be precise. Prices, for example, in the coal industry are somewhat lower than values, while in light industry they are higher. But in order to supplement the indices obtained through the method of balances with value indices it is important that the index of effectiveness in individual branches have the same margin of error in time. Calculation based on the existing prices and a comparison of the net increase of the product with capital investments during the current five-year plan make it possible to find the way to determine that coefficient of effectiveness which should be accepted for the planned period.

Some economists affirm that the effectiveness of capital investments must be compared not with the whole amount of the national income, but only with the accumulated portion of it. T. Khachaturov considers that this is wrong, because accumulation does not reflect the whole effect of capital investments. However we should relate to the capital investments not the whole net product, but only that share of it which is due to the capital investments in question. In order to obtain the coefficient of absolute effectiveness we have to establish a relationship between that share and the total amount of capital investments. But here we have to consider that the growth of the national economy is the result of capital investments not so much in the current year as in the preceding years. Moreover we also have to consider capital investments into the circulating funds. In a number of cases it is very important also to consider investments into adjacent branches of industry. Finally the question of the calculation of value is very important: cost is based on prices. So the calculation of cost in fact is identical with the calculation of prices. Of course, it would be better to calculate on the basis of values. However this solution is made difficult because the question of calculating the value and the method of such calculation has not been solved. For example, if we take for the determination of value — as was suggested — the ratio equal for all concerns, then the worse the work of a concern is, the lower its productivity, the higher will be its effectiveness of capital investment. In view of this we have to base calculations of the effectiveness on cost, bringing in necessary corrections.

The absolute effectiveness must be distinguished from the relative effectiveness which is applied to the selection of the concrete variants in the construction of new plants. Khachaturov defines the relative effectiveness as savings divided by the basic capital invesments or divided by the differences in the sums of capital investments necessary for the variants which are being compared. The difference in capital investments divided by the difference in exploitation expenditures is equal to the period during which the capital investment pays for itself, while the difference in exploitation expenditures divided by the difference in capital investments is the coefficient of effectiveness. Though theoretically this question has not yet been fully solved, yet the necessity of selecting the economically sound variant requires the use of these formulas.

The coefficients of relative effectiveness can be calculated with the help of existing methods of computer mathematics. This makes it possible to calculate, for the planned capital investments, the average branch effectiveness on the scale of the whole branch. In using such indices we must take not the average indices of the effectiveness for a branch, but the extremes, so that in the construction of all objects falling into the category of this coefficient, the average branch effectiveness would be achieved.

The period during which the capital investment pays for itself or the coefficient of efficiency for a branch also depends upon the volume of the planned capital investments. In view of this the branch coefficient of effectiveness for such key branches as metallurgy, power, machine building, chemical and petroleum industries, may be lower than for the branches where the volume of capital investments is smaller.

In conclusion Khachuturov touched upon the question of comparing capital investments made at different times and expressed the opinion that such variants could be made comparable if we use some coefficient which would permit us to express capital investments of the future period in terms of the present. This coefficient should be equal to the accepted long-range coefficient of effectiveness.

Academician S. G. Strumilin presented for discussion an associated report, “Concerning the Economic Effectiveness of New Techniques.” He emphasized in it that the problem of the effectiveness of new technique is one of the most important particular problems flowing out of the most general problem of planning the national economy: how is it possible with the smallest expenditures to obtain in the shortest period maximal economic results? This most general economic problem of the maximum and the minimum cannot be, however, solved in a general form without resolving it into a number of individual and more concrete problems. For example, if for the maximal results we take maximal volume of the product in its consumers' aspect, then immediately a question will arise: what proportions in the distribution of this product will yield the maximal effect in the satisfaction of all social needs; in what proportion should the available resources of past and present labor be distributed in such a case for the satisfaction of the just determined optimum of needs with minimal expenditure of these resources; how should these resources be distributed between the production of the means of production and means of consumption in order to solve the tasks set before us without excessive straining of the available forces, in the shortest possible time?

No saving of time and, consequently, no acceleration in the development of the economy is possible without raising the level of technique. But the renovation of technique inevitably presupposes additional investments in m of labor which would increase its productivity. Hence fol a mandatory higher rate of development in Department I, as an objective law of the economy. Production of labor should proceed ahead of the production growth of the means of existence of the whole army of working peo and, consequently, of the growth of that army, because without this the growth of the means per worker and, con sequently, the growth of its productive forces is impossi However, as the production of means and objects of labo Department I expands and becomes less expensive, the n technique will lead also to the expansion of production of the means of existence and make them less expensive.

The main economic effect of the application of new tec nique is acceleration of technical progress: the key facto in increasing the productivity of labor. This means that new technique must ensure either an increase in the amo of the product per unit of expenditure of labor or lower these expenditures per unit of the product, or produce th two effects simultaneously so that in all these cases the result is reduction in the cost of the product. Such is the main effect of the application of new technique.

The effect of the application of new technique may be measured by the growth of the product ΔP in kind or in constant prices as a result of such an application, provided the quantity and the quality of the labor force used remains the same. But the expansion of production, even without the corresponding growth of the labor force, alwa presupposes an expenditure of additional capital funds Δ for the full renovation or partial modernization of the existing technique. Only by comparing the expected effec of the application of new technique ΔP with the necessary (for this purpose) expenditure ΔF would we obtain the measure of effectiveness of its application.

Such an index of effectiveness $\Delta P / \Delta F$ may be called a measure of relative effectiveness of new technique of various kinds and purposes. If such indices are sufficien comparable, they may become the most valuable instruments of the planned application of the most progressive kinds of the technique.

The concept “effectiveness of new technique” can be considered only as a specific case of the effectiveness o capital investments in the means of production in genera In both cases effectiveness is determined by new techniq and is calculated per unit of investment, but in the secon case — the case of the effectiveness of all capital investm — the magnitude ΔF in the denominator of the fraction $\Delta P / \Delta F$ is larger than in the first case, embracing investments in the new and the old techniques, and, consequent the general magnitude of the index is smaller than in the first case.

The productivity of labor is determined not only by the level of technique, but also by differences in quality of la applied in different cases. However, differences in the quality or intensity of labor on the average between the whole branches of production are small. Moreover, takin into consideration different wage rates established by th economic organs, through reducing more valuable “complex” labor to “simple” labor such differences in th quality of labor can be accounted for. The records of the expenditure of labor expressed in terms of time should be replaced with records of the wage funds which are comparable with each other. Then the measure of the effectiveness of the new technique will be the whole recorded increase of the products per unit of labor, expres in terms of “simple labor.”

In all cases when the new technique is applied to modernization of obsolete technique, without expansion of the orking space and other passive elements of the produc- on process, its relative effectiveness, calculated accord- g to the formula $E = \Delta P / \Delta F$ will be, other conditions ing equal, much higher than in the case of new construc- on because, even if numerators are equal, the denomina- r of this fraction ΔF will be considerably smaller, as it cludes additional investments in new equipment only, hich is the most active element among the means of pro- ction.

Among the questions raised in S. Strumilin's report ere was also the question of calculating the size of vings in the current expenditures.

In trying to find out which planned construction objects e more sound our practical workers usually take as their int of departure the comparative cost of the product in ch variant and on the basis of differences in current ex- enditures determine possible savings for a given volume production; after that they calculate the period during hich the investment pays for itself in each of the com- red variants. The variant in which this period is the ortest is declared to be the most effective and the task of nding the best variant is considered solved without a fur- er analysis of the effect obtained. The report shows de- cts in such a solution.

Under socialism expanded reproduction is impossible thout a corresponding rate of accumulation. For the com- rison of levels of rentability of capitalist concerns it is ite proper also to use indices of rentability such as the te of profit. We should only remember that there is a atter of the cardinal difference in the basic economic ws of socialism and capitalism. A socialist society, in the terest of all working people, sets as its task to ensure e fullest possible satisfaction of popular needs. The answer this is not the highest rentability of production, but the ghest measure of labor productivity with a minimum of s expenditure. These are not the same criteria of evalu- ion; in view of this the effect of investments in new chnique, when we apply one of these two criteria, may be ite different.

As is well known, in the USSR accumulations are re- stributed through prices in a direction opposite to the quirement of the law of production prices, namely from avy industry to light industry; from branches with a gh level of technique into branches with a low level of chnique. One who would try to judge the effectiveness of rge capital investments in new technique, in our case by e level of rentability, may come to the conclusion that a w level of technique is the most efficient.

But if prices serve as a lever of redistribution of value the interbranch division of labor, then the rentability of dividual branches cannot serve as a measure of effective- ss of capital investments in these branches in general d of the effect of new technique in particular. However, en if prices were to fully coincide with the value of the oducts, it would be wrong to see the measure of com- rative effectiveness in the rate of their rentability be- use there is no direct functional connection between in- stments and accumulations.

Through arming living labor with the achievements of new chnique, the investment of past labor may increase the oductivity of living labor, that is, may increase the amount consumption goods created by labor per unit of time, ite independently of the accumulations obtained in this ocess, through newly created value. Exactly in view of s the direct effect of new technique is not the rentability the corresponding additional investments, but only that crease in the product in its consumption aspect which is termined by new technique. Any other approach may lead to a different and sometimes completely mistaken determination of the effectiveness of capital investments.

Unlike capitalism, under conditions of socialism the maximum of investments is directed not into those branches of production which insure maximum rates of profits, as for example, in the light and food industry, but in such branches as machine building and power production which even with minimal rentability ensure a maximum growth of investments per worker and the productivity of labor in the whole national economy. In a planned economy capital investments are distributed first of all in proportions among the various branches of labor which are the result of the previously determined need of society for products with different destinations. Thus at this stage of planning considerations of the different rentability of various branches of labor do not play any role. Moreover the comparative rentability of different branches in the final account is determined by the level of planned prices, fixed for various products and, consequently, with the change of technique it may change substantially. And only then, when the objects of the necessary new construction or modernization of the obsolete plants of given production capacity are determined in the plan, only then does a new task appear: to design these objects in such a way that all achievements of the newest technique in the given branch of labor are taken into consideration, which means that the objects are designed with the maximal relative effectiveness of the needed capital investments.

This problem is solved in each particular case concretely with a large number of allowances and this demands from the designers comprehensive knowledge and complicated creative work with various combinations needed for the completion of the designing work.

In each particular case such a task should proceed within strictly defined limits. One of such limits is usually the production program of the future plant, the other — the scale of the investments allowed for this program.

In the simplest case, when it is necessary to make a technological decision which will ensure the production of the least expensive products with given capital investments, when both the product and capital investments in the compared variants are equal, the choice of the best variant would not present any difficulty if we consider current expenditures per unit of the product or the global savings on the value of the whole product of the given plant. However, more frequently we have to compare variants in which reduction of the cost of the product is obtained through an increase in capital investments. In such cases the effectiveness of capital investments may be considered as equal to the average rate for the whole national economy. However, even the variant selected in this way cannot be considered an optimal variant if we failed to take into consideration all the best technical solutions and other related circumstances, and this raises new problems.

Some authors suggest measurement of the effectiveness of new technique not by savings of labor obtained with the help of new technique or by the corresponding share of the increase in the gross product, but by its general increase during a certain period, independent of the factors which caused it or, which is the same, by the general rate of the expanded reproduction of this product for a given volume of investments. Such a concept was, by the way, suggested in the State Technical Commission in January 1957 by Z. Chukhanov, member-correspondent of the USSR Academy of Science. According to Strumilin Comrade Chukhanov ignores such a factor of expanded reproduction as living labor power and ascribes the whole effect (the increased production) to the growth of capital investments, and this leads him to wrong conclusions.

The effectiveness of capital investments may be shown also as a percentage of the basic funds. However this index of effectiveness of capital investments in no case corresponds to the concept of rentability expressed under capitalism by the rate of profit. Profit is obtained through unpaid labor of workers even under stationary productivity of labor. But the effect of new technique comes from a different source and its nature is quite different. New technique does not create new values and does not increase the capitals invested in it and in this sense cannot serve the aims of expanded reproduction. It increases only the consumption value of the product produced with its help. The source of this increase is not in this case labor but the utilized free forces of nature.

Among other relevant circumstances in the evaluation of the effectiveness of capital investment the factor of time in different periods of construction of the planned object and different length of service of the means of labor used are of special importance. Technical progress, while increasing continuously the productivity of living labor, at the same time reduces the value of the objects embodying the fruits of past labor. The value of any means of labor as well as of other products of labor is determined not by the actual expenditure of labor, but by the average socially necessary expenditure under conditions of reproduction at a particular moment. If in application of new technique we increase the productivity of labor in the national economy, say, by six per cent, then, while reducing the cost of the new product by 5.7% (100:106x100=94.3%), at the same time we reduce in the same proportion the value of all functioning and idle production funds of the country. If these funds were revalued, then their real effectiveness, related to the new replacement cost, would also change. However, the part played by machines and tools in production does not change as a result of the change in their value. That is why in all cases when we study the production effect of the renovation of technique in expanded reproduction, the growing volume of the means of labor should be compared in constant prices without any revaluation. And we can speak, of course, of the production effect of the means of labor only for the period when they [the means] are in action.

Idle equipment can produce no positive effect. On the contrary, when the length of service of the existing means of labor is increased up to the point when these means are fully worn out or when they are replaced as a result of their becoming old, their productive efficiency is increased. If we compare variants which start functioning and end their services at different points in time, a disregard of the factor of time may make the evaluation of their effectiveness defective. The annual effect of the application of the new technique, expressed as a volume of the additional product or in constant prices of this volume is not changed in time, while its value, under conditions of technical progress, is being reduced continuously from year to year.

The majority of the Soviet economists do not question any more the necessity to consider not only the cost, but also the full value of the products created in the Soviet Union. This problem is especially important for recording and planning the effectiveness of capital investments in new technique. But how and with what modifications should we calculate the value under conditions of socialism?

Beside the classical treatment of the concept of value given by Marx in Volume I of Capital some economists prefer to discuss a modification of that concept which Marx analyzes in Volume III of Capital under the heading "transformed value" or "production prices" (Karl Marx, Capital, Volume III, 1954, p. 180 [Russian ed.]). Though the number of the Soviet economists who hold this opinion is small, we have to take their views into consideration.

The practical difference between value and production price is reduced here to the fact that surplus value s in its distribution among the branches according to the law value is created proportionately to the circulating capita or living labor v according to the formula $s_1 : v_1 = s_2 : v_2$ $s_3 : v_3 = \ldots q$ const., while in the case of production price the same suplus value is redistributed proportionally to the fixed capital c or to the past labor according to the formula $s_1 : c_1 = s_2 : c_2 = s_3 : c_3 = n$ const., where n is an average rate of profit. Theoretical preference for the second fromula over the first would mean our sliding do to the alien positions of capitalist practice in price form tion.

There is another concept which has currency among u Its starting point is that the value of the surplus product added to its cost, in order to get the full social value, is formed proportionally to the "mass of living labor occup in a given branch and to the volume of the basic and circulating funds assigned by society to this branch." (See i "Planned Economy," No. 7, 1957, p.72, an article by I. Malyshev, "Use of the Law of Value in the Planned Econ omy.") It appears as if it is suggested that we use instea of the ration s : v or s : c a ratio s : (v+c)=q, only measured not in value, but in physical units. But it remains stated how we may add labor power to the "volume" of tl constant funds.

Next Strumilin considers an individual case in which t same commodity is produced by concerns of different technical levels. In this case the price of the commodity remains, of course, the same, independent of the differe production expenditures, while the rentability of capital investments rapidly grows because of the reduction of e penses at the best concerns. Some economists see in the growth of rentability as a result of the growth of investn a manifestation of the law of production prices. But this wrong. The law of production prices presupposes equal of profit and in this case the use of the profit rate is in contradiction to the law of production prices, but can be easily explained under conditions in which the law of val operates through the effect of capital investments in mo progressive technique.

Neither our theory, nor the forty years of practice of Soviet price formation has followed the line of productio to which some economist try to deflect us. It is also ver revealing that in recent years a great distance was cove along the line of bringing wholesale and retail prices closer to the values of all kinds of products.

New technique, increasing the productivity of the best concerns, other conditions being equal, at the same time increases their rentability as compared with technically more backward concerns. But the increasing rentability some concerns because of redistribution through loweri rentability in others is not in contradiction with the law value, because it regulates not individual, but social expenses of production so far as each increase of labor pr ductivity is accompanied by the corresponding lowering the level of value in the corresponding branches of prod tion, independently of prices. Lowering value — with any prices — is the surest and most indispensable criterion the effectiveness of new technique. This means that in o planning we need to consider value.

The new organization of industrial and construction management according to the territorial principle, undoubtedly, will require further improvement of the syste of price formation, taking into consideration all elemen of the social expenses of production and circulation. An improvement in this field will greatly contribute not onl he determination of the effectiveness of our investments also to the successful application of the new techniques he whole national economy.

The chief of the production section of the All-Union signing Technical Institute, A. I. Shuster, made a report isic Methodological Questions in Determining the Eco- nic Effectiveness of Machines of New Design." He no- ed that the 1956 Provisional Standard Method of Deter- ing the Economic Effectiveness of the Application of v Technique (in the preparation of which The State chnical Committee took part), in spite of all its short- ings, was a step forward in this field. Now we have to dy further the questions which are not covered by the ndard Method. There are two basic movements in the elopment of technique: the creation of the new type of ducts, materials, machines, tools and means of labor, the use of new methods of technology and production anization. The questions of the economic effectiveness nachines of a new design and of new technological proc- es should be solved not independently of each other, but ntimate connection. However we have to take into con- eration special difficulties in determining the effective- s of new designs. These questions were not treated in published Provisional Standard Method.

The general criterion of the economic effectiveness of new measure is increasing productivity of social labor; indices of this criterion are the cost of the product and period during which the additional capital investments for themselves (return of capital).

n the national economy some concerns produce means of duction while others consume them. Consequently, the rent expenses for the production of a new machine of the cern producing it become capital investments for the cern consuming it. This circumstance is not taken into isideration in the standard method and branch method and s has resulted in a certain amount of confusion in the culation of the economic effectiveness of machines of v design. If new technology is applied in a concern which nges only the process of manufacturing machines, but not ir operative qualities, then this effectiveness is realized npletely within this concern and can be calculated. In the ne way if improvements in the design of the machine do change the operative qualities of a machine, but are nected with improvement of the technological side of duction, with modernization and standardization of its ts, in such case the economic effectiveness of this im- vement can be calculated without involvement of other cerns.

The situation is different when the improvement of the ign of the machines changes its operational qualities; uch case the effect is obtained first of all in the sphere nachine consumption. In this case the center of gravity letermining the machines' effectiveness is shifted from sphere of their production to the sphere of their use. nges in the current expenditures for manufacturing hines should be considered as increasing the capital estments of consumers in these machines. A question es here: in determining the economic effectiveness of machines should we take into consideration only ital investments of the consumers in the purchase of e machines or also capital investments of the concerns ch produce them? This question demands a special lysis in each particular case. We have however to con- r some solutions of the question which involve prin- es. Not only capital investments of the concern pro- ng them should be taken into consideration in calculat- he period during which a machine will pay for itself in r to determine its effectiveness. For example, we should not include in our calculations capital investments in the stocks of materials in instrument sections of the plant in the general plant economy, etc. which increase the capacity of the plant. Of course, part of such expenditures is directly connected with the production of the new machine: expenditures on special equipment and rigging which would function only during the period when this new machine is produced. However the question of inclusion of these expenditures requires additional study because we cannot simply add them to the capital investments of the consuming plants: the expenditures here are of a different kind.

The Provisional Standard Method legalized the use of the period during which the machine pays for itself as an index of effectiveness of capital investment. But it does not make any distinction between general and additional capital investments, which is very important because in the evaluation of new technique we have always to deal with the effectiveness of such additional capital investments. Comparisons of the new variants are not complicated. But the task becomes more difficult when we have to determine the effectiveness of the new technique replacing the old one. In this case the formula of the period during which the investment pays for itself needs certain corrections for losses because of discarding the old equipment which has not yet paid for itself through depreciation charges.

A difficult question in the practice of designing concerns is the method of determining the cost of the future new machines. This question arises at every early stage of designing because its cost (and the price determined on its base) is one of the key factors of the economic effectiveness of the future machine. Drafting of the standards of machine costs on the basis of the study of dependence of the basic elements of the cost upon the changes in such key factors as the weight of the machine, its capacity, volume of production etc. is of great importance in this connection. The preparation of such combined indices and standards must be done for all branches of machine building and must be included in the branch methods used for the determination of the economic effectiveness of capital investments and of new technique.

K. I. Klimenko (Institute of Economics, USSR Academy of Sciences), Doctor of Economic Sciences, made a co-report "Methods of Determining the Economic Effectiveness of Complex Mechanization and Automation in Machine Building." He pointed out the possibility of comparing unrecurring and annual current expenditures though unrecurring expenditures are made at a different time and at different prices from current ones. With the present state of our knowledge, under existing possibilites of recording and with the existing system of prices the best index which is most frequently used is — in spite of its lack of precision — the period during which the additional capital expenditures pay for themselves or the corresponding coefficient of effectiveness. This last index is calculated as a ratio of the savings in the current expenditures to the additional expenditures, that is as a quantity inversely proportional to the period mentioned above. In determining economic effectiveness we have to distinguish three problems: 1) a comparison of the economic effectiveness of the variants in our technical decisions and the selection of the most advantageous variant at various stages of designing; 2) determination at which sections the use of the best variant should be made, 3) determination of the effectiveness of a measure which has already been realized on the basis of the available experience in exploitation of the machines (data of the annual and other reports).

Two opposite tendencies are observed in introducing automation: on the one hand the circulating means, forming the stocks of semi-manufactured goods needed for feeding the automatic line in a number of cases are increased, on the other hand they are reduced because the length of the production cycle is reduced. In view of this when we calculate the effectiveness of a measure connected with automation we have to consider the dynamics of the circulating funds. We have to determine correctly the cost under conditions of complex mechanization and automation. The experience of a number of organizations which calculate the overhead by various elements of the cost (power, depreciation charges, repairs, etc.) should be taken into consideration.

There is also the question of the inclusion in capital investments of the unrecurring expenses on research and designing. Here we must sharply differentiate between research for designing and research which should be considered as an expenditure made for the whole national economy and paid by it.

The speaker pointed out that frequently the main attention in designing the variants of complex mechanization and automation is directed at lowering expenditures of living labor and not enough attention is paid to lowering expenditures of past labor. Yet the latter expenditures are of decisive importance for the cost of machine building products, especially in the case of mass production. Lowering these expenses ensures the general lowering of cost frequently to a greater degree than lowering the expenditure on living labor. The Central Designing Bureau of Metallurgical Machine Building, headed by A. I. Tselikov, (member-correspondent of the USSR Academy of Sciences) selects the variants which ensure the greatest lowering of the costs mainly through the reduction of past labor (reduction of metal used).

So far as in a number of cases prices deviate from the cost (because of the imperfections of our system of prices) we have to consider as correct the checking and more precise calculation of prices of the basic materials consumed which is made by the designing organizations. For example, in determining effectiveness from the point of view of the national economy, the Likhachev Automobile Plant sometimes recalculates expenditures on materials if their prices are excessive because of high cost as a consequence of an artificially high accumulation rate. They calculate prices on the basis of the so-called normal accumulations for means of production, or three to five per cent of the commercial cost.

Determination of the economic effectiveness of automation in its introductory period is also a very important question. In Klimenko's opinion the designing variant should not be compared in all cases with the best existing variants of technical solutions.

Engineer G. G. Bugaev (Committee of the Economics and Organization of Production of the VSNTO) presented a co-report "Basic Questions of the Methodology of Determining the Economic Effectiveness of New Technological Processes." He characterized the main tasks which are faced by every branch of industry in the following way: 1) uninterrupted growth of production in order to ensure the systematically growing needs of the national economy; 2) reduction of the expenditures of social labor necessary in production which ensure the lowering of the cost through the use of new, better technological processes, means of production and organization of labor and 3) improvement in the quality of the manufactured goods with a saving of social labor through improvement of the technological process and the length of the period of the product's service and, most important, through lowering the expenditures of social labor in its use in the national economy as a means of production. But the current growth of production in industry, lowering the cost and improving the quality of the goods are not yet sufficient for the great demands of our economy. In connection with this we should widely apply the new, progressive technology and improve the organization of labor. Calculations of the economic effectivene of new technological processes should take place at all stages — from their inclusion in the plan of problems studied by technological institutions and up to and including their use in industry. The basic criterion of economi effectiveness is the value of the product. However we do not have as yet an accepted method for calculating the value of the product. In view of this we have to use the nearest approach to it — an index of the cost of the product.

If the use of the new technological process does not require the use of new means of labor (except for special fittings and adjustments, the expenditures for which are covered in a very short period through their inclusion in the cost of the products), determination of effectiveness should be based on an index of cost. However in the majority of cases the use of the new technology is connecte with the use of additional means of labor and, consequen with more or less substantial capital investments. Thus the necessity of comparing variants of technological pro esses with different levels of cost and different volume of capital investments does arise as the problem of selection of the most effective technique among the desi variants and presentation of arguments why it should be selected over others.

If capital investments in the means of labor, necessar for the use of the new technological process, are larger than the minimum of investments necessary for the continuous functioning of the existing process, then this increase forms additional capital investments which do no create an additional product but are directed at obtainin an economic effect — savings in production expenditures through the reduction of cost of the product. The period during which additional capital investments (used for the introduction of the new technique) pay for themselves characterizes the period of return of these investments through accumulation of savings in production expenditu — the result of the reduction of the cost of the product — and is an over-all and decisive index of the economic effectiveness of new technique. The period during whic the investment pays for itself is determined by the well-known formula used in the evaluation of the variants of n technological processes.

In cases when the introduction of new technological pr esses requires an increase (or decrease) of the necess circulation funds, the difference should be added (or sub tracted) from the necessary capital investments needed for the introduction of new technique. The economic effe tiveness of the reduced production cycle may be determi only through taking into consideration the reduced need for circulating funds. On the other hand, in a number of cases, while calculating economic effectiveness we have determine an increase in stocks of semi-manufactured goods in an incompleted state of production.

Some authors affirm that the period during which capi investments pay for themselves should be reduced throu the deduction from the cost of the product of the so-call double counting of depreciation charges. This is wrong, bec exclusion of the depreciation charges from the cost of the pr uct would mean the appearance in industry of means of lab with different periods of physical wear and tear which are not compensated by the accumulated depreciation charges n order to determine the period during which invest- nts, needed for the introduction of the new technological cess and means of labor in the existing concerns, pay themselves we have to apply another formula based on direct use in calculations of the rise of these capital estments (K_i). Capital investments needed for the in- duction of new technological processes and means of or usually are smaller than the amount of capital in- tments in the basic means required under the new tech- ue, because they do not include the value of the available duction areas and certain equipment. They show only the ue of the equipment newly applied in a given production tion, namely, that sum which we had to invest in indus- for the realization of the new measure.

ntroduction of the new technological process and means abor usually is connected with freeing some portion of equipment used under existing technique and replaced he new equipment (new in general or new only for this ticular production section) and with a reduction of the a needed for the new, more productive equipment and, sequently, with the freeing of a portion of the production a. The equipment and the area freed in this way may be ctively used for an increase of production at some er section while the freed equipment may be transferred ther concerns. Only in such cases the value of the ic means is deducted from the capital investments ded for the use of the new technique. If the freed equip- nt cannot be used in industry or is used inefficiently, we have to deduct from the capital investments for the oduction of the new technology only the accumulated de- ciation charges for the discarded equipment because lication of the new equipment is connected in such a e with the replacement of the basic means. The value he production area freed which is used for the improve- nt of production or living conditions is not deducted m the sum of the needed capital investments because the of the area gives no production effect.

he formula for the period during which capital invest- nts pay for themselves in cases when we apply new hnological processes and means of labor in functioning cerns is as follows: $T=(K_i - K_r - K_d)/(C_1 - C_2)$, where K_i capital investments needed for the introduction of new technique and means of labor, K the re- cement value of the means of labor freed because of the oduction of the new technique used in industry for in- asing production and K_d the accumulated depreciation rges for the equipment which cannot be used further in ustry or is used inefficiently. In this formula the value of used equipment and production area is excluded from the ital investments needed for the introduction of the new nique.

bsolute effectiveness of capital investments in the USSR onal economy, according to T. S. Khachaturov, is about which corresponds to the ten-year period during which capital investments pay for themselves. However, so as, parallel to the introduction of the new technique on rge scale, the old technique is applied, actual effective- s of the introduction of new technique is considerably than ten years. In determining the maximal period ng which investments pay for themselves we should ember that the period determined in the blue-prints ly an estimate and the actual period may be considera- onger. The old technique with which the comparison made at the time of designing actually may be im- ed and by the end of the period the base cost may be ced, in which case the estimated annual savings may en to be smaller than expected. Capital investments w technique from the first moment of the manufacturing of the new means of labor to the moment when they are ready to start functioning do not produce any economic effect and during the period of their adjustment and mastering by the personnel produce an effect lower than in the estimates. For example, for a special machine tool the period of its introduction is from two to two-and-one-half years. Determination of these losses requires a large amount of work; yet in determining the maximal period during which the investments pay for themselves these losses have to be considered.

When we determine the maximal periods for the branches of industry, we have to consider their importance for the national economy and the rate of the development of their technique. Naturally, in the selection of the variants of the technological processes the preference, as a rule, should be given to the variants with the minimal period. However, we also have to consider the absolute amount of capital investments: in variants with the same period a certain share of capital investments for some part of this period is diverted from productive functioning in those sections of the economy where it could ensure a high economic effect.

L. A. Waag (Moscow Power Institute), Candidate of Technical Sciences, in his report "General Questions of the Evaluation of the Economic Effectiveness of Capital Investments" points out that the majority of the conference participants agree with the necessity to use as an index the period during which capital investments pay for themselves. However, there are some differences of opinion concerning the question of the economic essence of the period and definition of its standard length. There are also differences of opinion on methods of technical-economic calculations in connection with this method. According to the speaker the problem of determining the effectiveness of capital investments may be scientifically solved only on the basis of correct calculation of full expenditures of labor, i.e. calculation of value. But this problem is closely connected with others, in particular with the problem of price formation. The last problem, according to L. Waag, may be correctly solved only if we find a method of calculating value in monetary form.

Waag's basic theses were: 1) The cost of the product is not a generalized index of the work of the concern. Such an index can be only value which is equal to the cost plus labor s, corresponding to the product for society. The quantity s should be calculated proportionally to the sum of the basic and circulating funds of the concern so that differences in technical means per worker can be objectively considered. Having determined the minimal quantity of the expenditures of labor, calculated in this way, we may then determine the effectiveness of capital investments directly by value. 2) The economic essence of the period during which capital investments pay for themselves consists in determining the expenditures of labor and their correspondence with value in which s is proportional to capital investments. The use of the periods during which capital investments pay for themselves has economic meaning only when we determine them by differences in costs. 3) The determination of the capital investments in adjacent branches, as practiced now, is in effect a kind of correction of prices used in calculations. The determination of capital investments in adjacent branches and the use of the accepted period during which capital investments pay for themselves (or, which is the same thing, a certain percentage of deductions) brings price closer to value in which s is proportional to the capital investments. L. Waag considers that the period of return of capital investments and calculations of capital investments in adjacent branches, as done now in practice, actually lead to the category of prices of production. 4) The standard period of the return of capital investments or its reverse quantity — deductions from capital investments expressed as percentage — must be the same for all branches of the national economy. The length of the standard period should be determined as a ratio of the total surplus product of society to the total sum of the basic and circulating funds. Only the use of the single percentage of deductions from the capital investments, determined in this way, will make it possible to find the actual value correctly and, using it, to obtain the maximum growth of the net product of society. In this connection L. Waag registered his disagreement with Khachaturov's suggestion about the establishment of differentiated periods of return of capital investments by branches. Acceptance of a single period of return of capital investments does not presuppose the necessity of the same technical level in different branches, but it requires the same lowering of the cost of their product per each ruble of capital investments. L. Waag considers Khachaturov's opinion that for the reduction of the cost of their product the leading branches should be supplied more generously with capital investments than the secondary branches is wrong because such a practice would lead to the lowering of the amount of the net product, to less sound decisions for the national economy as a whole. Khachaturov's suggestion to determine the period of return of capital investments by different branches on the basis of studies of corresponding report data will not produce the desired result. In conclusion the speaker emphasized that the central task, necessary for the evaluation of the problem discussed, consists in the establishment of a scientific method of determining full expenditures of labor, determining value in money form, and that all attempts to determine standard periods of return of capital investments empirically are doomed to failure.

Doctor of Economic Sciences V. V. Novozhilov (Leningrad Economic-Engineering Institute) offered a report "Laws and Methods of Measurement of Expenditures and Results in the Socialist Economy as a Basis of Determining the Economic Effectiveness of New Technique." In this report he approved the basic suggestions of the draft recommendations presented to the conference for the discussion. He examined the function of the standard for the period of return of capital investments and gave an illustration which showed how individually designed variants, effective in themselves, may lead to an ineffective combination of the variants. The first function of the standard for the period of the return of capital investments is to prevent ineffective combinations of variants. Its second function is the maintenance of the correspondence (or balance) of the total sum of the proposed capital investments to the total planned accumulation. The standard for the period of the return depends upon the volume of planned accumulations which is the result of a certain economic law. With the optimal volume of accumulation the standard period of the return of capital investments is connected with the maximal uninterrupted growth of the productivity of labor.

In the opinion of Novozhilov in our practice of measuring expenditures and in price formation a new, transformed form of value makes its appearance: the national economy value which is formed because of the subordination of the law of value to the special economic laws of socialism. The difficulties of determining the effectiveness of capital investments and of new technique are the result of the fact that the methods of measuring expenditures and results do not completely correspond to the laws of such measurements. In particular the calculations do not reflect fully the national economic cost. We need for
this purpose a system of value standards (prices of the
means of production, differential rent, rent for the use
the production funds, and standards of effectiveness of
capital investments) which should be derived from the
optimal plan of the national economy. Guided by the mi
mal national economy cost we may determine which tec
nique would lead to the maximal uninterrupted growth o
the productivity of labor. Realization of this scheme re-
quires a long period and presupposes a considerable im
provement of our planning, designing and supervising w

L. V. Kantarovich, member-correspondent of the USS
Academy of Sciences, made a report, "Application of C
temporary Mathematical Methods for the Determina-
tion of the Economic Effectiveness of Capital Investmen
He said that this problem is exceptionally complex beca
of the number of possible technical solutions and roads
development in our contemporary industry, interconnec
tions of the different branches of the national economy,
terconnections of the problems of capital investments w
other basic economic problems as well as with the prob
lems of techniques and technological policy. In the soci
ist economy the questions of the effectiveness of capital
investments are solved in the process of preparing a pl
for the development of the national economy and solving
dividual economic problems which are part of the plan.

Economic analysis of the effectiveness of capital inve
ments must be concrete. In other words, it must consid
the whole concrete economic situation: the existing leve
the development of the productive forces, the available
duction base, the mastered technological methods and th
long-range development, the volume of the means which
may be set aside for capital investments, the long-rang
demands of the national economy.

The problems of the effectiveness and advisability of
capital investment and a comparison of it with others c
be correctly analysed only in connection with long-rang
planning as a whole. It requires exact quantitative meth
of analysis. Naturally such exact quantitative method
of analysis should utilize the latest achievements of
mathematics.

The application of mathematical methods to economic
analysis — if the initial assumptions are methodological
correct — is certainly justified and may produce results
as great as those obtained in natural sciences and technology.

In an analysis of capital investments mathematical m
ods, analogous to those which were suggested for the
solution of the various problems of production planning
(distribution of labor, savings of material, planning of
freight traffic), may be utilized. Here it is important to
emphasize the importance of combining the application
computers with the improvement in the methods of economic calculations for planning purposes obtained thro
the use of mathematics. The scientific methodology of
optimal planning — if the starting economic problem is
correctly formulated in a precise mathematical form —
may be directly used with computers in spite of the gre
number of operations required and the complexity of ca
culations.

The fact that we constantly have possibilities for the
of means for capital investments with different effectiv
ness demands that we use these means properly, strug
with their wasteful or not very efficient use, and this
procedure must be checked by calculations of the effectiveness of capital investments. The systematic use of s
calculations, even if they are approximations, would ma
it possible, among other things, to determine losses incurred through the dispersion of means and the delay i

nstruction and in the start of operations, losses which e incurred through capital investments of low effective- ss; all this would help us to avoid these kinds of losses. the same time such calculations would help us to find the ay to the speediest realization of the most effective easures, including capital investments with a short period return.

The realization of mathematical methods of calculating e effectiveness and optimal long-range planning requires improvement of the system of basic statistical-economic dices. We should improve systematically indices which ould help us to reveal the possibilities of increasing pro- ction, the degree of utilization of equipment, etc. Such dices, beside calculations connected with working out e optimal plan, should find reflection in our cost account- g.

A. S. Ferberg (USSR Industrial Bank), reporting on the actice of utilizing technical-economic indices of the fectiveness of capital investments, emphasized that the udy of technical-economic indices which would help eval- ate designing decisions for industrial concerns, is neces- ry for finding a way to increase the effectiveness of pital investments in the national economy. These indices e needed to characterize the size of the expenditures at given moment for the construction of the new and recon- ruction of the functioning concern, the size of the current penditures which enter into the cost of the product, and e labor productivity of the workers at the concerns which e under construction or are being designed. A compari- n of the technical-economic indices of the designed ob- cts with similar indices of the best Soviet and foreign ncerns, a study of the factors influencing the dimensions these indices — all this makes it possible to select the ost economic solutions at the designing stage and in this ay to ensure the lowering of expenditure of past and pres- t labor in the construction and operation of concerns. It enough to say that lowering the cost of the construction anned for 1958 only by one per cent is sufficient to build ore than 5,000 km. of railroad lines.

Some economists consider that the categories of the erage rate of profit and prices of production which aracterize capitalism also function in the socialist econ- ny and that the evaluation of the designing solutions rough the use of the period of the return of capital invest- ents actually reflects these categories. Such opinions e wrong. Those economists are right who, in their search r the solution of the problem under discussion, consider e requirements of practice and base their suggestions on e methods of planning and statistics used in our national onomy. The development of scientific methodology for etermining the effectiveness of capital investments will ing to an end differences existing in this field. For ample, some organizations determine the period during hich capital investments pay for themselves by dividing e difference in the cost of the designed variants by the fference in the operating expenses of these concerns; hile others — through the division of the capital invest- ents according to combined estimates by the difference tween the price they charge and the commercial cost the product according to the blueprints, etc.

The main part of means appropriated by the state for pital investments passes through the Industrial Bank. Up recent time the Industrial Bank in its study of the onomic effectiveness of the decisions concerning the signed plants financed by the Bank, as a rule, considered ly the index of relative capital investments. At the sci- tific conference organized in the spring of 1957 by the dustrial Bank and the Moscow Financial Institute the opinion prevailed that in the evaluation of the effectiveness of capital investments we can limit ourselves to one single index (as, for example, relative capital investments or the cost of the product). This conference recommended to the Bank to evaluate the economic effectiveness of the decisions of the designing organizations according to three indices: relative capital investments (capital expenditures per unit of capacity), the cost of the product for the plant under construction and expenditures of labor per unit of the product. Moreover in a number of indices studied by the Industrial Bank the value of the basic production funds, in particular of equipment, per million rubles of the product was included. Life shows that the use of these indices helps to find the ways to raise the effectiveness of capital investments. For example, for the power supply of a region the construction of two hydroelectric stations with a capacity of 126,000 kw. was planned. In the same region there is being built a regional thermoelectric station for an industrial plant using natural gas as its fuel. There arose a question as to whether, instead of building two hydroelectric stations, it would not be better to expand the capacity of the thermoelectric station. A comparison of the technical-economic indices of these stations showed that the relative capital investments per kw. of capacity for the first hydroelectric station was 5,381 rubles, for the second — 5,280 rubles and for the thermal station 2,140 rubles. Moreover, the cost of one kwh. of power for the thermal stations was 30% lower than that for the hydroelectric stations. Naturally, it was decided to expand the thermal station.

However the use of technical-economic indices in economic construction is made more difficult by the fact that many designing organizations up to now do not have new indices based on changed technical-economic indices prepared some time ago, which took into consideration the latest technical achievements and the experience of the best concerns. Thus the economic evaluation of the plans for a pit concern and brick plants was made by a designing organizations of the Ukrainian SSR on the basis of the technical-economic indices of 1952, now obsolete.

The reform of the system of management in industry and construction, which created favorable conditions for raising the effectiveness of capital investments in branches of the national economy, demands a speedy completion of the work of preparing new technical-economic indices for the designing concerns. These indices must be periodically reexamined so that the technical level of the national economy can be raised further.

Z. V. Atlas (The Moscow Financial Institute) mentioned the good organizational work of the conference. This ensured the fully scientific, creative character of the discussion. Criticizing Comrade Strumilin and to some degree Kantorovich and Novozhilov, he joined the opinion of the majority of the conference participants in accepting as necessary the use of the period during which capital investments pay for themselves as an index of effectiveness. In this connection Comrade Atlas expressed the opinion that the principle of rentability in managing the economy, under conditions of socialism and the preservation of the commodity-money form of the social product, is necessary for the realization of the basic economic law of socialism and of the law of the planned, proportional development of the economy. Rentability is expressed not in the net product or in the national income, as it was stated in Khachaturov's report, but in the net income. Rentability of production on the scale of the national economy is a ratio of the total net income (profits plus receipts from the turnover tax) to the average annual sum of all basic and circulating means. Rentability, based on cost accounting [khozraschet], is a fraction whose numerator is total profit (without receipts from the turnover tax) and whose denominator is the same as in the preceding case. The principle of the standard rentability of production or, what is the same, of the period during which the investment pays for itself, already enjoys general recognition. According to the regulation established as early as 1955 a bank opens credit to a concern for the introduction of new technique, mechanization, improvement of technology, rationalization and intensification of the production processes for a maximum period of three years which corresponds to a minimum 35.3% of the standard annual rate of profit (including the interest charged for the loan). In this case the bank controls first of all the economic effectiveness of the use of such loans, a procedure which is not observed in cases when construction is financed from the state budget or from the plant's own profits. Consequently this procedure helps to expand the production of goods, strengthens the regime of economy in the concern and the rational use of its means. In view of this we should expand by every means the use of the principle of rentability and in this way save social labor. The ratio of the total receipts from the turnover tax and profits according to the balance sheet to the average sum of the basic and circulating means is the standard rentability of industry. Theoretical considerations and an analysis of the combined statistical materials confirm the correctness of the empirically established period during which capital investments pay for themselves in the majority of branches — about four years.

V. P. Krasovsky (NIEI, USSR State Planning Commission) considered that it is wrong to exclude from the indices of the effectiveness of capital investments an index of the increase of the aggregate social product, and for the concerns and branches of industry, an index of the gross product of the branch or the product of the concern in kind (and not in money). In order to study the new effective proportions in the national economy it is necessary to know the total product of each branch (the total amount of gas, oil, aluminum, etc.) and not only the net product. One of the most important effects of the Seven-Year Plan for the development of the national economy, now in preparation, is a structural shift in the relation, for example, of the ferrous and nonferrous metals, their alloys, natural and man-made materials, etc. The social product, from which so-called double counting has been removed, does not allow the proper study of the effectiveness of use of the replacement fund. Yet tremendous possibilities of savings of the basic and circulating funds are connected first of all with the effective use of the replacement fund and not with newly created value.

Next Comrade Krasovsky dealt with the question of capital absorption in industry. A number of special commissions which were occupied with the problems of the long-range plan studied the relative capital investments for a broad group of concerns including tens and hundreds of mines and pits, enrichment and agglomeration plants, metallurgical and machine building plants. They removed mistakes caused by different evaluations of capital investments made at various periods; they found new possibilities for concentration of production, better geographic distribution of the productive forces, improvements in the use of raw materials, introduction of the complex methods of processing, use of substitutes, etc. Moreover, connected with this they studied expenditures for power, production of chemicals, transport, fuel, etc. An analysis of the combined indices for two seven-years periods (1952-1958 and 1959-1965) by branches of industry convincingly shows a tendency for the relative capital investments to decrease. Foreign and in particular American data also do not give any basis for conclusion that capital absorption capacity, after change better materials and methods of production, increases. view of this Comrade Krasovsky considers that the sugg tion found in the draft of the conference recommendation concerning the use of an index of additional capital inves ments is incorrect just as statements concerning insufficiency of an index of relative capital investments. If we recognize the period during which additional investments pay for themselves as the main index, this would mean that a more progressive variant may happen to be a mor capital-absorbing variant. In Basistov's report there was a correct idea about the possible divergence of the gene tendency for lower capital absorption and concrete roads the development of individual branches where a growth o relative capital investments may be observed. Speaking the period during which capital investments pay for themselves Krasovsky noticed that the differentiation of the periods during which investments pay for themselves, advanced by Comrade Khachaturov, is more sound than t suggestion on the use of the same period for all branche But it is better to determine this index not by cost, but b prices charged at the plant: they better reflect the socia evaluation of the given product. In conclusion Krasovsky expressed his disagreement with such indices of effectiv ness as prices of production and the rate of profit.

Z. F. Chukhanov, member-correspondent of the USSR Academy of Sciences, said that only the lagging of the theory of economic analysis of the socialist economy explains the fact that in many cases we are not able to dete mine the economic effectiveness of a particular method production. A scientific method of economic calculation should be based on the basic economic law of socialism. Under our conditions economic calculations have to show what should be produced (among the kinds of the product which are not substitutes for each other) but how, by wha method the planned production should be obtained. This determines fully the economic effectiveness of new technique. A general and single criterion of the economic effectiveness of production or construction under sociali is the rate of expansion of reproduction ensured by this method. A tendency of reduction of the annual increase o production observed in recent years is connected mainly with the wrong selection of the objects which should be built ahead of others, with the long period of completion of construction and impermissibly slow introduction of n technique. Yet with a given level of technique and organization of production the means invested into the basic fu of the state make it possible — if the concerns function properly — to ensure considerable annual appropriations for society to be used for the expansion of production an for other needs. In 1947-1956 such appropriations amou on the average to not more than 15% of the value of the basic funds. Raising the technical and organizational lev of production will make it possible — with sufficient labo power — to increase continuously this rate of annual appr priations for expanded reproduction. Here it is especiall important to ensure rational direction of capital investme For example, production of power by hydroelectric stati mining of coal in the Moscow and Donets basins, of lump peat, subterranean gasification of coal, its bricketing, et require large capital investments and presuppose long periods of their return, that is, long freezing of past lab in these enterprises. Here we have to consider the exper ence of foreign countries, in particular of the United Sta where the construction of hydroelectric stations is under taken only in cases when relative investments in them are not more than double the relative investments in the

l power stations, while in our construction the ratio is
r to five. Economic calculations with the help of graphs
effectiveness make it possible to select a rational dis-
oution of capital investment and the most advantageous
iants of the designing decisions. It is especially impor-
t for the national economy to expedite construction even
his involves a quite definite increase in expenditures
culated with the help of his, Chukhanov's, equations. A
nge by the majority of the concerns to work in two shifts
to work around the clock, as well as intensive use of
ipment, will produce a great effect for the national
nomy.

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There were many reports made at the sessions of the
nch sections.

The section of the machine building industry discussed
umber of reports concerning the analysis of the eco-
nic effectiveness of designing, modernization and utilization
he machines and equipment.

. S. Konson (Kalinin Polytechnical Institute in Leningrad)
ched upon the problem of determining the length of serv-
of machines. Without this one cannot solve any ques-
n relating to the economic effectiveness of the introduc-
n and use of new technique. The methodology of measur-
the degree of physical and general wear and tear of
ipment (including its obsolescence) is one of the most
portant problems of economic effectiveness. The degree
he physical wear and tear of a machine cannot be ex-
essed with technical indices; one has to use economic
ices. Konson suggested for this purpose the use of the
mula $D_p = R/C_1$ where D_p is physical wear and tear,
the estimate of the cost of repairs necessary to restore
y this equipment and C_1 the cost of reproduction of
machine.

For calculating the obsolescence Konson suggested the
owing formula: $D_m = (C_o - C_1)/C_o$ where C_o is the origi-
cost of the machine, C_1 the cost of the same machine
which its depreciation as a result of reduction of the
enditures for reproduction of such machines and the
earance of the new, better machines is taken into con-
eration. The index of general wear and tear, which in-
des the preceding two is expressed by the formula $D =$
$(1 - D_m) \times (1 - D_p)$.

An important problem is the determination of the period
he machine's service at the time of its design. For
ny years the economists were of the opinion that obso-
cence could not be determined beforehand because one
not foresee future technological progress. Konson con-
ers that such a determination based on averages is
te feasible.

The basis of this methodology is a comparison of the cost
reproduction of the machines with the cost of capital re-
rs for various years of use. In any case a machine
not serve after the moment when expenses of repair
eed the cost of its reproduction. The expenditures for
air may be calculated on the basis of the generalized
a concerning the use of the existing stock of machines.
s possible to determine that one group of details and
ts of the newly designed machine would serve half a
r, another — one year, two years or five year, etc. On
basis of these data it is possible to prepare a graph of
cost of repairs necessary for the complete restoration
machine by years and if we show on this graph a curve
lepreciation of the machine by years we may find a
nt showing that further repairs are uneconomical.

For the reflection in these calculations of the deprecia-
of the machine as a result of its obsolescence we may
a formula worked out by S. G. Strumilin: $C_t =$
$C_o/(1+g)T$ where C_t is the value of the machine after T years of use, C_o its original cost, T — the number of years since its production, g — the average annual rate of growth of the productivity of labor in the Soviet Union, expressed, for example, as a percentage.

In calculating expenditures for future repairs we must also consider technical progress. For this purpose we may use the formula $R_t = R_o(1 - D_r)^t$, where R_t is the future expenditures on repairs during T years of use, R_o the same expenditures at the present level of technique and D_r is an average decrease of expenditures on repairs as a fraction of one.

Thus in Comrade Konson's opinion it is possible to determine the approximate length of service of the newly designed machines which would take into consideration their wear and tear and their obsolescence due to future technical progress.

Next Konson examined methods of evaluating the economic effectiveness of modernization and replacement of old equipment as compared with new. Such questions should be solved through a comparison of expenditures for the repair of the old machine with expenditures on its modernization and on the acquisition of a new one, considering the productive effect achieved in each case (the capacity of the equipment and the cost of the product). Let the expenditures for the repair of the old machines be R_c, expenditures on its modernization E_m, on its replacement with a new one E_n, the production capacity (the amount of the product produced per unit of equipment per year) of the old machine q_m, of the new machine q_n, the cost of the product per unit for the old machine C_c, of the modernized machine C_m, of a new machine C_n. If relative capital investments in the variant of modernization are smaller than on repair ($E_m/q_m < R_c/q_c$) and also smaller than the relative utilization expenses in the same variant ($C_m < C_c$), then, it is quite evident, modernization is more effective than repair. If, however, relative capital investments in modernization are larger than on repair ($E_m/q_m > R_c/q_c$), while the utilization expenditures are smaller ($C_m < C_c$), then, in order to find the best variant it is necessary to calculate the period of return of the additional capital investment on modernization through savings on utilization expenditures: $T = (E_m/q_m - R_c/q_c)/(C_c - C_m)$.

A comparison of the relative indices of expenditures for the solution of the question of economic effectiveness in the replacement of old equipment with new should be made in a similar way.

In order to use this method we have to have branch standards for the return of additional investments. Konson suggested the following procedure for the determination of these standards.

Only certain means may be appropriated for the replacement of the old equipment and its modernization in a particular branch at each given moment. This means that in view of the limited resources it is impossible to satisfy all needs in capital investments. The available means should be first of all invested in the measures which pay for themselves quicker. On the basis of the amount of means appropriated for the branch and the index of returns we determine the series of measures to be carried out during the planned period. The length of the period during which the measure may be carried out with a given amount of the appropriated means should be considered to be the standard period of return for the branch. The use in calculations of economic effectiveness by this method will help us to select, in designing, variants which make it possible to obtain the greatest increase in the productivity of labor with the available resources of capital investments.

In conclusion Konson stated that in the analysis of economic effectiveness, in the case of new technique, we have to study the dependence of this effectiveness upon the concern's conditions. He showed on the basis of a concrete example that more productive machines may happen to be inefficient in cases where the volume of production is insufficient.

N. L. Prozorov (Research Automobile and Automotor Institute) expressed his disagreement with Shuster's criticism of the method of calculating the effectiveness of new technique prepared by his Institute.

After some introductory statements he came to grips with the theme of his report: the question of the period during which additional capital investments pay for themselves in the branches of machine building with large serial and mass production (using the automobile industry as an example).

The savings in production from mastering the new model of an automobile may be calculated according to the formula (1) $S_n = P_a\ [P_2 - C_2\ - (P_1 - C_1)]$ where P_a is the annual production of automobiles of the new model, P_1 and P_2 are the corresponding prices of the replaced and the new automobile, C_1 and C_2 – the production cost of the replaced and the new automobile.

The annual savings per automobile may be defined as the product of the annual work done by the new car and of the difference in the cost per unit of the transport work in the use of the replaced automobile and the new automobile: (2) $S_a = P_r\ (C_1 - C_2)$ where P_r is the annual capacity of the new car in ton-km, C_1 and C_2 the cost of one ton-km in utilization of the replaced (C_1) and of the new automobile (C_2).

Savings in the use of the new automobile is a variable quantity, depending upon the number of years of the car's service, increasing all the time. As the production of automobiles by the plant and their delivery to the customers is going on uninterruptedly, the total savings from the use of the new automobile is proportional to the square of the time of the use and is expressed by the formula (3) $S = P_a \text{ x } S_a \text{ x } T^2/2$, where S is the total savings during the whole period of T (expressed in years).

Preparations for the production of any automobile require additional capital expenditures in the plant producing them. When production of automobiles proceeds on an even keel, additional capital investments of a transport concern during the T period is equal to the number of automobiles produced during the period multiplied by the difference in prices between the new and replaced automobile. The total sum of the additional capital expenditures may be expressed by the formula (4) $I = I_a + P_a T\ (Pr_2 - Pr_1)$, where I_a is additional capital expenditures in the plant producing them, Pa – the annual production of automobiles, T the number of years and $Pr_2 - Pr_1$ the difference in the prices of the automobiles.

The savings for the national economy during the period T after the start of production of the new automobiles may be determined, if the savings on current expenditures (Formulas 1 and 3) are deducted from the additional capital investments calculated according to formula (4); after some changes we obtain the following formula (5) $S_{ne} = (C_1 - C_2)\ P_a T + P \times P_a \times (T^2/2) - I_a$, where S_{ne} is savings for the national economy.

On the basis of this formula we may derive a formula for calculating the period during which capital investments pay for themselves, that is, the period during which the additional capital investments will be covered by savings in expenses of utilization:
(6) $T_s = (C_2 - C_1)/P + \sqrt{[(C_2 - C_1)/P]^2 + 2\ I_a/(P_a x S_a)}$ where C_1 and C_2 are the cost of the replaced and of the new automobile, S_a the annual savings from the use of one automobile, I_a –additional capital expenditures of the plant producing automobiles, P_a –the annual number of automobiles produced by the plant.

In a particular case, when the measure introduced at plant manufacturing automobiles does not change either utilization qualities of the automobile or its price, the savings from the exploitation are equal to zero. In such case the period during which the investment pays for it may be expressed by a formula suggested by Comrade Shuster and included in the draft of the conference reco mendations: (7) $T = I_a/P_a\ (C_1 - C_2) = I_a/S_{ne}$.

In conclusion N. L. Prozorov emphasized that the me presented by him is applicable only to those branches c machine building with large serial and mass productior which are characterized by uninterrupted production ar deliveries of the product to the consumers and uninterr ed reduction of the utilization expenditures.

The report by A. A. Kolotushkina (All-Union Institute Agricultural Machine Building) was concerned with the methodology of determining the economic effectiveness new agricultural machines. Agricultural machine buildi is different from other branches of machine building in that its products are used only during a short season e year (for example, grain combines are used only from ten to fifteen days a year) and also that machine model changing rapidly (in the last 15 to 20 years models con in production only from three to five years) while the t of machines are very numerous: now we produce mor than 260 kinds of various machines and under the seve plan it is planned to bring the number of models of agr tural machines in production to 551.

Having presented a picture of the basic stages of designing agricultural machines, the speaker went into th problem of technical-economic standards necessary fo determination of the effectiveness of designing and producing new models. As a standard criterion for the eva ation of the economic effect of the lowering of expendit of living labor the wage rates applied on the state farm are used. Standards of costs for manufacturing of new chines are under preparation. For this purpose it was necessary to analyze the costs of more than 60 machin manufactured in various plants of agricultural machine building on various scales. This made it possible to de mine the coefficient of changes in the cost of various m chines depending upon the scale of production and othe standard indices.

At the base of the economic evaluation of the machin lies its technical-economic characteristics, in particu its capacity (work per season). The effectiveness of th introduction of machines is determined by changes in t elements of the cost of agricultural products or work. great and independent importance are also natural indi labor-absorption of the operation under consideration mechanization, amount needed by the model, etc. Indices need for labor are especially important. The demand f labor in agriculture in various seasons of the year is uneven. In view of this especially effective are the mac which reduce this unevenness through the mechanizatio the processes requiring much labor coming at the time maximal strain in the labor balance. The indices of th need for metal for a new machine make it possible to determine the savings of metal as a result of the mach use. In determining the need for metal, we have to tak into consideration also the productivity of the new mac Consequently, as a result of the reduction in the numb new machines — while the amount of work to be done re mains the same — we make certain savings.

s to the period during which the investment pays for
lf, Kolotushkina noted that this index is very important
he selection of the variants for new models. This period
ccording to her - is the index of the average branch
olescence. She approved the suggestion contained in the
ft of the conference recommendations (inclusion in the
n of additional capital expenditures of the losses incurred
ause the old machines were not fully paid through de-
ciation charges and of the losses connected with the in-
llation of the old machines).

. E. Prokopovich (Experimental Research Institute of
al Cutting Machine Tools) made a report concerning
problem of the effectiveness of modernization of the
sting machine tools in machine building. The processes
methods of production are being changed very rapidly,
le the existing equipment reflects the level of technol-
which was mastered when this equipment was brought
use. The period of the equipment's obsolescence is
ermined mainly by the rate of changes in the technology
roduction. In machine building and in particular in the
ration of mechanical processing of metals the period
xploitation of the new equipment should not exceed ten
rs. Only under this condition will the needed rate of in-
duction of new technology be ensured.

owever, the level of production of machine tool
ipment in the Soviet Union is not yet sufficient to en-
e such a period of renovation. As is well known, the
nber of machine tools in the USSR now amounts to two
lion, but only 130,000 machine tools were manufactured
957. With such a volume of production, and taking into
sideration the need of the newly built plants and also
orts, it is impossible to renovate our machine tools
n during the next ten to fifteen years. Hence the problem
odernization of the available machine tools. The
aller the period of a machine's service, the lower the
enditures of modernization. Experience shows that
ipment which is in use more than twenty years, as a
e, is so worn out and so obsolete and its utilization in-
es are so low that in many cases its modernization is
ffective. The greatest results are obtained in the mod-
ization of equipment ten to twenty years old. According
he data of January 1, 1957, the machine tools in the
SR which are ten to twenty years old make up about 60%
he total number; those which served more than twenty
rs — about 20%. Thus modernization may be applied to
ut 40% of the existing machine tools or to about 700 to
thousand of them.

he effectiveness of modernization is determined by a
nparison of the savings effected as a result of the in-
ase in the productivity of labor using modernized ma-
ne tools with the expenditures of modernization.

he experience of the plants shows that the greatest ef-
tiveness is obtained through a complex modernization
he equipment leading to the reduction not only of the
e machines take for operation, but also to the reduction
he time needed for auxiliary, preparatory and concluding
rations. Excessive concentration in the past on such one-
d modernization as increasing the speed of cutting and
reased feeding of the machine in metal cutting equip-
t failed to bring about a great increase in the produc-
y of labor. The basic line of modernization is a compre-
sive raising of the level of mechanization and auto-
ion. This is especially important in cases of serial
duction and specialization in machine tools. It con-
rably increases the productivity of labor, by 30 to 40%,
in some cases from two to three times.

In order to determine the effectiveness of modernization we have to evaluate correctly the volume of capital investments required for this purpose, we have to determine precisely the period during which depreciation will take place. For the equipment which is being used the period of depreciation charges cannot be the same as for the new equipment. In each concrete case we have to establish precisely what is the period of the machine's future use for a given type of modernization and on this basis to fix the depreciation charges.

Our task is not only to calculate the effectiveness of the modernization carried out, but also to determine the means to achieve the highest economic effectiveness, to select the best among the variants of modernization.

When production of details and units of machines is organized in specialized concerns, expenses of modernization are reduced from two to three times. A centralized system of supply of units and details of modernization may produce the same effect as the purchase of a new machine tool at half the cost. Though the length of service of a modernized machine tool is shorter than of a new one, expenses of modernization are fully justified. The task of raising the technical level of production may be solved through modernization in the shortest time. The Party and the government envisage in the next five years the modernization of 22% of the existing metal cutting and forging processing machines. The realization of this program will be equivalent to the addition of 120,000 new machine tools. This measure will make it possible to increase production by 14 billion rubles. The solution of this task requires not only a correct calculation of the effectiveness of modernization, but above all specialization in manufacturing modernized machine units and groups of details.

B. K. Upirvitsky (Technological and Research Designing Institute of the Gorky Economic Council) noted that in practice, the Gorky Economic Council, in order to determine the effectiveness of capital investments in the construction of new and the reconstruction of existing concerns, applied the following system of indices: 1) Production of goods per ruble of basic means (in prices of July 1, 1955): this index, in the opinion of Comrade Upirvitsky, is the main criterion for the effectiveness of capital investments; 2) production of goods per worker in thousand rubles; 3) production per square meter of the production area in thousand rubles; 4) need for labor per thousand rubles (in man-hours); 5) the ratio of the number of the auxiliary personnel to the number of production workers in percentages; 6) ratio of the engineer-technician personnel, accounting and office workers, MOP and guard personnel to the number of workers, in percentages; 7) standards of expenditures per thousand rubles of gross production according to the estimates of production expenditures (basic materials, auxiliary materials, fuel, power, wages with bonuses, depreciation charges, other expenditures in money); 8) cost of one square meter of the used area in rubles.

The use of this complex of indices ensures the selection of a variant of construction economically most effective.

I. P. Minaev spoke of the problem of the method of calculating the economic effectiveness of the introduction of a better technological process. The designing data make it possible to determine expenses involved in the introduction of new technology and capital expenditures necessary for the introduction of the new technological process. Determination of effectiveness may be made according to the following formula:

$K_{eff} = \frac{(P-C)Pr}{F_b+F_c}\ 100$ where K_{eff} is the coefficient of efficiency, P — the price of the product, C its cost, Pr — production per year, F_b — the basic fund and F_c — the circulating fund.

Speaking of the suggestion made by F. S. Demyanyuk to determine the effectiveness of new technology by indices of the need for labor and cost, Minaev said that in his opinion higher values shown by these indices cannot serve as an exhaustive criterion for the introduction of the new technological processes. The economic effect of lowering expenditure of labor in production should be compared with changes in the funds of the concern, as is shown in the above formula. In his concluding remarks Minaev stated that the criterion of the economic effectiveness of capital investments and of new technique should be, not the period during which the investment pays for itself, but the coefficient of effectiveness. We should have a single minimal value of this coefficient for the whole national economy. Variants which do not ensure this minimal per cent of profit calculated in respect to the sum of all funds should be rejected as inefficient.

Yu. B. Erpsher (The Ordzhonikidze Plant) emphasized that the problem of improving the economic side of production requires not only preparation of the proper methodology for determination of the economic effectiveness of capital investments and of new technique, but also stimulation of the interest of the engineers and technicians in improving economic indices of the concern. He suggested that the decisions of the conference should emphasize that material stimulation of the interest of the engineers, technicians, management of industry and individual plants in the economic results of the concern's work is a necessary condition for ensuring the high effectiveness of new technique and of economic operations in general.

He noted that in determining the economic effectiveness at the concerns we should be guided by cost as an index closest to value and by the price lists. At the same time Comrade Erpsher noted that the use of price lists is difficult because of differences in prices for interchangable equipment produced by the plants. Fixing prices on the basis of individual expenditures of production of a particular plant leads to a situation in which prices cease to be a controlling factor in the management of the economy, leads to the breakdown of the system of khozraschet (cost accounting). This becomes an obstacle to the proper specialization and cooperation among the concerns because the actual losses for the national economy from the plants, the scale of production of which is small, are hidden in the artificially high prices of their products. Prices should be based on an average for a given branch level of cost and should correctly reflect the costs of various kinds of products. In the opinion of Comrade Erpsher we should, when a new line of production is designed, supply the designers not only with technical data, but also with a maximal permissible price of the product. The designers should know ahead of time the maximum permissible price of the new product and the possible demand for it. This would help them to design a more economic type of new equipment and would lower the cost of new technology.

The existing procedure of depreciation charges of a concern is wrong because it does not take into account whether it has already covered the purchase expenses and capital repairs of the equipment. It does not stimulate the struggle for keeping the equipment in good shape. If the savings made on depreciation charges result in lowering cost and if a concern which saved on depreciation charges of one type of equipment would be permitted to replace the worn out
equipment of another type through these savings and in
way lower the cost of goods further, good maintenance
the equipment would be ensured.

K. M. Velikanov examine the comparative economic e
fectiveness of various technological variants and noted
that the results of the comparison depend to a consider
degree upon the scale of production. The determination
the relative economic effectiveness of technical variant
similar in their effect cannot be based only upon the
comparison of the indices of cost. In the opinion of Com
Velikanov we should also take into consideration the ci
cumstance that society, financing the realization of a
measure which improves the technology of production i
given concern, loses the possibility of obtaining saving
another concern because the total sum of capital invest
ments is limited, and consequently, some plans for the
provement of production remain unrealized. The amoun
"unrealized savings" may be determined by the formula
$C_n = E_n \times K/Q_r$ where K is capital investments needed
the realization of the designed variant of the technologi
process, Q_r — the volume of production per year, E_n —
standard of effectiveness of capital investments in rubl
of savings per year per ruble of capital investments. H
ever, Comrade Velikanov did not explain how the last q
tity should be calculated.

Beside these "unrealized savings" we must add to the
index of cost an index reflecting the amount of labor do
for society. This is calculated according to the formula
$C_o = K_o \times Z$ where C_o is the value created by labor for s
ciety, K_o a coefficient characterizing the ratio of surpl
value to the wages of production workers and Z — wage
of these workers per unit of the product.

The sum of all expenditures of labor (C_{ne}), connecte
with the making a unit of the product will be expressed
the sum of cost (C), "unrealized savings" (C_n) and the
value of the surplus product C_o: $C_{ne} = C + E_n (K/Q_r)$
$+K_o \times Z$.

In the opinion of Comrade Velikanov this formula sho
be used for comparing different variants of a technolog
process.

R. A. Frantsuz (State Institute for Designing Machine
Tools) dwelt upon the question of the determination of t
effectiveness of capital investments in the processes o
designing machine building plants. The evaluation of th
economic effectiveness of capital investments in the co
struction of machine building plants should be made on
basis of a comprehensive analysis of the whole comple
of value indices and, mainly, indices in natural units, a
cannot be determined just by one index or formula. A
system of indices recommended by him includes: 1) ne
for labor for the manufacturing of the product; 2) the p
ductivity of labor; 3) general and relative capital inves
ments; 4) cost of the most important products; 5) renta
bility of the concern; 6) the period during which capital
investments pay for themselves; 7) annual production i
wholesale prices per ruble of the basic means. The eva
tion of the effectiveness of a design should be made thr
a comparison of the above given technical economic ind
with the most economical among the available designs
similar lines of production as well as with the data for
best concerns in operation. He recommended as a stan
period of return of the additional capital investments fo
to seven years. In conclusion he expressed the wish th
the following instructions and standards be prepared: 1
methodology of calculating the cost of production for t
concern to be built; 2) standards for the various items
overhead expenses; 3) methodology of determining the

timal capacity of concerns as well as of casting d forging sections and specialized casting and forg- g plants; 4) methodology of discovering sound tech- cal-economic reasons for the selection of new con- rns; 5) methodology of calculating the replacement st of the basic funds of the existing concerns; methodology of comparing the technical-economic dices of model plants (those used for a comparison the effectiveness of the designed plant) with the dices of the one under consideration, if they are fferent in their scale of production, composition of ctions, etc.

Ch. G. Naido-Zhelezov suggested the following formula r the calculation of the annual savings for the national onomy in the selection of the two variants in designing uch as designing of the optimal technology, selection of e machine tools, etc.):

$S = C_2 - C_1 - (I_1 - I_2)E$ where C_1 and C_2 is the cost of e product in each of the two variants, I_1 and I_2 – capital vestments necessary for the realization of these variants, – the standard coefficient of effectiveness. This formula applicable, however, only in cases when we compare two riants which are as yet in the blue-print stage. In cases ıen we have in view the replacement of the obsolete tech- que (which still may be utilized for production purposes) ith new, better technique, we should use the following rmula: $S = (C_o - D_o) - C_n - (I_n - I^1_o)E$, where $(C_o - D_o)$ the cost of the annual volume of production minus de- eciation charges with the use of the old technique, C_n the cost of the annual volume of production when new chnique is used, I_n — capital investment in the new tech- que, I^1_o – capital investment in the old technique minus s wear and tear and obsolescence.

In the opinion of Comrade Naido-Zhelezov the standard efficient of effectiveness for the whole national economy ut not for the individual branches) may be determined as ratio of the annual increase of the national income to the ım of the basic and circulating funds of the national econ- ny. As to the value of the replaced technique minus its ear and tear and obsolescence, Naido-Zhelezov con- ders that it can be calculated by methods suggested by . S. Konson.

I. E. Khavin (Aviation-Technological Research Insti- te) touched upon the question as to whether in de- rmining the effectiveness of newly produced machines e should take into consideration the savings to the nsumers. In his opinion the method worked out by AMI determines the savings to the consumers for e whole period of service of the new machine, ough the correct solution would be to determine only for the period from the start of the machine's eration to the moment when the production of the w, better machine is mastered by the plant, that , up to the period when the machine becomes obso- te.

Comrade Khavin considered that the standard period ring which capital investments pay for themselves ıst be different for different branches. In addi- n inside the same branch different periods ould be established for various measures (capi- construction, changes and modernization of the uipment, etc.)

A. I. Noskov (Kuibyshev Planning Institute) emphasized t the system of material stimulation for working out and stering new technique in the concerns must be organiza- nally connected with the generalized indices of effec- eness. This would accelerate technical progress and ensure the selection of the most commercial variants in capital construction and the use of new technique. In his opinion the generalized index of effectiveness is not the period of the return, but an index of the "net savings" calculated according to the formula $S_n = E_{th} x T_{st} -- I$, where S_n is not savings, E_{th} — theoretical annual savings, T_{st} — the standard period of return of capital investments, I -- capital expenditures. Passing to the problem of establishing standard periods of return, Comrade Noskov pointed out that it should be different for the different branches of machine building depending upon the level of specialization of the concern and sections and parts of them as well as upon the degree of specialization of the used equipment and the degree of standardization of the goods produced and the stable character of design and technological processes.

V. O. Chernyavsky (State Institute for Designing Metallurgical Plants) affirmed that the period during which capital investment pays for itself is a real category of the Soviet economy. However the question as to how to use this category is far from settled. Two methods of determining the effectiveness of capital investments were examined at the conference: relative (when we compare the additional capital investments with the reduction of cost) and absolute (when we compare all capital investments with profit). In the opinion of Comrade Chernyavsky the use of the absolute method is more correct, especially in metallurgy, where price lists may be used for economic calculations. Having given examples of the comparative analysis of the effectiveness of capital investments for the main concerns of ferrous metallurgy, he declared that the data obtained to a certain degree confirm the theoretical statements. For quite a time economists discussed the question as to whether the need for capital investments per ton of product in the application of new technique increases or decreases. The analysis of the data for 26 plants shows that the need for capital investments decreases in spite of the fact that new, expensive aggregates are introduced. The basic question which is of special interest to the metallurgists is how to utilize efficiently capital investments measured in many billions of rubles. On the basis of the analysis of this group of concerns we may conclude that the most effective are those capital investments which go into the expansion of existing concerns. The discussion concerning this question went along two directions: what is more profitable – capital investments in new plants or in the expansion of the existing ones? Research shows that in the second case capital investments are more effective, especially from the point of view of the return of the capital. We also have to take into consideration the experience of the United States where an increase of capacity of 41 million tons took place in 14 years and yet only one new large plant was built with a capacity of two million tons of steel. This shows that in the United States the development of ferrous metallurgy proceeds along the lines of expansion and modernization of the existing concerns.

In the report by B. S. Wainshtein (Research Institute of Construction Economics, USSR Academy of Construction and Architecture), "Methods of Determining the Economic Effectiveness of the Introduction of New Technique in Construction," it is mentioned that the USSR annually spends on expanded reproduction of the basic funds approximately one quarter of its national income. The problem of the most effective use of these capital investments is closely connected with working out a method of determining the economic effectiveness of new technique in construction. We should have in view here that the new technique applied in construction produces a certain economic result not only in the process of construction work but also in the use of the constructed buildings and structures.

The main factor in the growth and improvement of production in the USSR, including construction, is technical progress. Economic expansion takes the main share of the accumulations of the Soviet state. Through expanded reproduction of the basic funds we create the most valuable part of the national wealth of the country (concerns, communications, housing, etc.). In view of this it is easy to see the importance of a properly defined criterion of the effectiveness of new technique, of technical progress in construction. In the opinion of the speaker the most important forms of manifestation of economic effectiveness in the use of new technique in economic expansion should be a) reduction in the cost of the construction work; b) increase of the productivity of labor on construction; c) reduction of the length of the construction work. These forms will manifest themselves in the process of utilization as follows: a) accelerating the start of operations of the object under construction; b) lowering of the operational expenditures for the maintenance of the object under construction (including expenditures for repair and depreciation charges). Indices which correspond to these forms of manifestation of economic effectiveness are used for the evaluation of this effectiveness. The measurement of economic effectiveness requires some yardstick; the highest level of the development of technique actually reached in the Soviet Union may serve as such a yardstick. As to the individual construction organizations, in Wainshtein's opinion these should use for comparison indices of technique used before the new construction in order to evaluate the effectiveness of the introduction of the new technique at the construction site.

In his report Comrade Wainshtein gave in great detail a method of determining economic effectiveness, practical procedures for the comparison of individual indices as well as the procedure of calculations. The determination of the economic results of the introduction of new technique in construction is made after a comprehensive study of the economic and technical advantages and disadvantages of the suggested measure under concrete conditions of its use. Before the start of calculations we have to establish in which way we expect the economic effectiveness to show itself. He recommends the following plan and procedure of calculations in this case: a) first to establish a yardstick as a basis of comparison to determine economic effectiveness; b) find indices, basic and auxiliary, which characterize economic effectiveness; c) next determine the index number and compare it with the corresponding index number of the yardstick; d) when needed, the indices are given in terms of cost after which the total result for the accepted index is determined; e) next, establish the scale on which the new technique is to be introduced and the magnitude of the economic effectiveness.

In such calculations we have to find organizational and economic conditions under which the maximal effectiveness of the new technique will be ensured (the order and the dates of its introduction, preparation of experimental models, carrying out of the experiments etc.). We have also to consider local conditions, the degree of utilization of local resources. In conclusion Comrade Wainshtein touched upon the question of the period of return of capital as an index of the economic effectiveness of capital investments. He considered that such a period can be used as an index for the comparison of capital investments with the operational expenditures when we determine the scale of construction. But it cannot be used as the main index applied for the whole economy.

In his report "Economic Effectiveness of Capital Inve ments and the Problem of Incompleted Construction" B. Sokolov (Research Institute of Construction Economics, USSR Academy of Construction and Architecture) showe that an increase of the economic effectiveness of capita investments is predetermined by the improvement of th existing system of planning of capital investments and c struction production. Among defects in planning which c serious losses to capital construction Sokolov mentione the poor state of statistics, records and planning of the incompleted construction and he analyzed its special features and the state of such construction as of Januar 1, 1958. An excessively large volume of incompleted co struction slows down the process of reproduction of the basic funds and limits the growth of current production. showed the causes of this excessively large volume of i completed construction and emphasized the necessity o bringing clarity into the concepts of a) incompleted capi investments; b) incompleted construction; c) the incompleted construction period. He pointed out that incomple construction is not the same thing as the necessary vol of the preparatory construction and stocks which are ne essary for the next step in construction and which are more or less the same from year to year – that is, that part of the incompleted construction which is really nec sary for ensuring the rhythmic character of constructio and the start of the operations of the object under const tion. In view of this, in our determination of the effectiv ness of capital investments in construction, of great im tance is the establishment of a standard of incompleted construction which is necessary for the next stages of c struction. For housing construction such a standard is equal approximately to 35% of the volume of the plan fo the housing area to be completed. In industrial construc tion this index should equal 50 to 55% of the object to be brought into operation.

The section on railroad transport discussed the repo of A. E. Gibshman (Moscow Transport Economics Institu "Determination of the Economic Effectiveness of New Technique in Railroad Transport." Gibshman said that i order to determine the economic effectiveness of new technique we should use the following system of natural and money indices: 1) expenditure of labor in the proces of the construction of the object; 2) expenditure of labor the process of its operation; 3) expenditure of materials 4) expenditure of fuel; 5) need for means of transportati 6) reserves of available capacity; 7) the date of the com pletion of construction. In the opinion of Comrade Gibsh it is wrong to be guided in all cases by the minimal per of capital return. For example, in the electrification of railroads we may accept this period as equal to three t five years. However the selection of a variant with such period of return may in the future complicate the mana ing of the railroad. There are certain elements of equip ment which are difficult to rebuild later (for example, road bed, traction substations of electric railroads, etc In such cases it is not advisable to be guided by a short period of capital return. A normal period of capital ret in railroad transport is from eight to twelve years. Fo object the reconstruction of which is connected with su stantial capital expenditures the period of capital retur must be longer.

Comrade Gibshman next spoke about special features the definition of the effectiveness of capital investments railroad transport caused by the fact that capital invest ments in railroad construction are realized by stages.

blem is to determine correctly future expenditures. A thod for their determination was worked out by Prof. otodyakonov. In it the original capital investments are npared with the future expenditures multiplied by the fficient of remoteness of such expenditures. As a re- t of this operation we get not the actual expenditures, reduced expenditures, because the expenditures of the er period are reduced in this way. In our selection of signs we should also correctly consider long-range de- opment of technique. It is enough to say that in the last years, for example, the traction power of the locomotive was increased 20%, the maximal speed by almost 40% l the capacity by 50%. In our designing we have to con- er progressive standards in the use of technique. We e to consider that in the long run the new technique will t less. Formerly when a railroad was electrified or sel locomotives were introduced, we used to deduct from capital investments needed for the purchase of the new omotives the undepreciated portion of the value of the am locomotives freed in this way. But as the produc- n of steam locomotives has been discontinued, the un- reciated portion of their value should not be deducted m the expenditures for electrification or for the change diesel locomotives.

n conclusion he emphasized that the final selection of variant in the introduction of new technique cannot be de only on the basis of the money indices. Only a com- ehensive evaluation of all indices, characterizing a par- ular variant, may ensure the selection of the correct ision. In many cases money indices are decisive. How- er there are cases when decisions contrary to the money ices are correct.

V.I. Petrov (Institute of Complex Transport Problems, USSR Academy of Sciences) in his report "Methods of aluation of the Effectiveness of New Railroad Con- uction" noted that these methods depend upon the scale he work and special features of the given branch of the ional economy.

n this evaluation the basic problem is the choice be- en two variants of which one requires larger capital estments and the other results in higher operational enses. The answer in this case is given by a compari- of the two periods of capital return. This period is the per index to help in the solution of such problems, ugh the methods of its use are not yet sufficiently worked .

Next Comrade Petrov analyzed the distribution of capital estments in railroad construction during the existence Soviet power. During this period the length of the work increased 69% and the freight traffic increased 0%. Freight traffic per km has reached 10.6 million -km or 3.5 times greater than in the United States and nost ten times greater than in Great Britain. This pened because capital investments in the development ransport went mainly into the reconstruction of the ex- ng lines. If instead of this we tried to build new lines, t is, if we kept the freight traffic per km for example, the 1932 level, we would have for the present freight ffic to build 500,000 km. of new railroads and invest in m 750 billion rubles instead of 150 billion rubles ac- lly invested during this period in the development of lroad transport.

Yet such a concentration of traffic brought about a great ain in some sections of the railroads. 73% of the rail- d network is in the European part of the USSR and 27% Asia. But while the freight traffic of the European rail- ds makes up 58% of the total, that of the railroads in a — 42%. Great concentration of traffic prevents an increase in speed. Lagging of new construction results in preservation of the old outline of the network. The length of the route between the point of loading and the point of unloading is approximately twice as long as the straight line distance between these two points. A number of regions cannot utilize their rich natural resources because they are not served by railroads. We now have to solve this task: to find the proper ratio between expenditures on the reconstruction of existing railroads and new construction. Though it requires large capital investments, the construction of new railroads would result in a substantial reduction of expenditures of the national economy on transportation.

One of the methods of comparison of the relative effectiveness of new construction and of reconstruction of the existing railroads is the calculation of the annual increase of freight traffic, expressed in ton-km, per ruble of capital investments. This method has certain defects. From the point of view of the national economy it is more advantageous to satisfy the haulage needs of goods with the smallest and not the largest number of ton-km. But even according to this method the relative effectiveness of the construction of new railroads (as compared with reconstruction) is systematically growing. During the Third and Fourth Five-Year Plan period each ruble of capital investments in the reconstruction of the existing network resulted in 5 to 6 times greater freight traffic than in the construction of new railroads. During the period of the Fifth Five-Year Plan the ratio was 1:3 and in the plan for 1959-1965 each ruble of capital investments spent in strengthening the existing network results in the same increase of freight traffic as new construction.

In conclusion V.I. Petrov reported that the Institute of Complex Transport Problems began research into the actual effectiveness of capital investments in the railroads in the last ten to fifteen years. Such research will produce the necessary actual materials for evaluating the effectiveness of the construction of the planned new railroads.

S.S. Ushakov (Ministry of Communications) emphasized that for the selection of the proper variant of capital investments we have to have a single criterion. The use of many technical-economic indices resulting in different numbers, may lead to subjective decisions. In view of this the key index should be the savings achieved by the national economy, expressed in money and obtained as a result of the realization of the plan.

In the selection of the type of traction we have to consider capital investments connected with it. For example, it is assumed that capital investments in electrification per km. of railroad amount to 600,000 to 800,000 rubles and in the change to diesel locomotives only 40,000 to 50,000 rubles. However these figures do not include the construction work. If we include investments in locomotives, repair bases, and the fuel-power supply necessary for this kind of traction, the results will be different.

As a result of calculations which take into consideration capital investments in transport and fuel-power supply in the European part of the USSR, diesel engines require smaller investments; next to it in terms of the effectiveness of capital investments is electrification; on lines with large amounts of freight traffic (80 million tons or more) capital investments in these two kinds are close to each other and on lines with steep main downgrades (about 12/1000) are about the same. On railroad lines with small amounts of freight traffic capital investments in electrification are higher than on railroads using diesel locomotives but lower than on railroads using steam locomotives. In the regions of Eastern Siberia the use of diesel locomotives brings about poorer results than electrification. Determination of the effectiveness of the various types of traction through a comparison of exploitation indices under the existing system of prices of power, diesel fuel and other kinds of fuel does not produce right answers. We cannot in such calculations use the existing prices, but have to consider that in the long run they will become lower. In comparing the effectiveness of electrification with that of diesel traction we cannot limit the comparison of the exploitation expenses only to the locomotive department, but have also to consider a speedier turnover of cars, the speedier delivery of freight, the effect from the increased freight traffic capacity of the railroad, etc. Only in this way may we select the best variant and obtain the maximal effectiveness of capital investments.

At the last plenary meeting of the conference, concluding remarks were made by member-correspondent of the USSR Academy of Sciences T. S. Khachaturov, who summed up the work of the conference. He noted that the majority of those who spoke at the plenary and section meetings agreed that the most effective capital investments are those which to a maximal degree contribute to the speediest building up of communism. Thus the problem is a maximal increase of the productivity of social labor. In the same way the majority of the participants accepted the principle of comparison of capital investments with current expenditures as the key economic index of the effectiveness of capital investments in a number of cases.

Capital investments in the USSR are made in order to increase the social product. The ratio of the physical volume of the national income to capital investments is the general quantitative measure of the effectiveness of capital investments.

In the process of discussion there were suggestions made to consider as an index of effectiveness for the whole national economy not only the ratio of the whole national income to capital investments but also the ratio of accumulation — a part of the national income — to the capital investments. This would make easier the task of determining the effectiveness of capital investments for each branch and even for the individual concerns.

In connection with the selection of the value indices of the effectiveness of capital investments, further improvement of price formation, improvement of the existing system of prices of great importance.

Some of the comrades expressed the opinion that a study of actual effectiveness is not so important; that the problem should be solved in an abstract way. We cannot agree with this. Beside proper methodological light thrown by theory on the question, a study and generalization of the factual material, of the data on economic effectiveness of capital investments for various branches, is of great importance. Such a study is already under way in a number of branches of the national economy. We have the necessary data for the power, coke and chemical industry, ferrous metallurgy and railroads.

Objecting to the establishment of a single coefficient of effectiveness for all branches, Comrade Khachaturov said that in the final account this would mean recommending that it was necessary for prices to correspond to values. But the law of value is not the regulator of production in our practice. In such case the coefficient of effectiveness must be such that its application would make it possible to select economically the most effective objects for capital investments. When there are many objects for capital investments, the solution of the problem is possible with the help of mathematical analysis.

In conclusion T. S. Khachaturov took exception to the suggestion to make the category of production price the ba of price formation and of the calculation of the effectiveness of capital investments. In our work on the problem of the effectiveness of capital investments we have to study a number of allied questions, including those whic are important in themselves – the formation of prices, preciation, obsolescence.

After discussion of the draft of recommendations at t plenary meetings and committees of the conference the latter approved the "Recommendations of the All-Union Scientific-Technical Conference on Problems of Detern ing the Economic Effectiveness of Capital Investments of New Techniques in the USSR National Economy" whic are given verbatim below.

RECOMMENDATIONS OF THE ALL-UNION SCIENTIFIC-TECHNICAL CONFERENCE ON PROBLEMS OF DETERMINING THE ECONOMIC EFFECTIVENESS OF CAPITAL INVESTMENTS AND NEW TECHNIQUES IN THE USSR NATIONAL ECONOMY

1. Problems of the economic effectiveness of capital vestments and new techniques in the national economy a among the most important economic problems of comm nist construction. Capital investments of many billions made every year aimed at expanding reproduction of ba funds in all branches of the national economy; the inves ments are directed at the comprehensive development o socialist production in all union republics and economic regions of the country and at ensuring the solution of vi tasks in the development of the USSR national economy its way to communism.

The Soviet people are interested in the most effective utilization of capital investments because the rate of produ tion development and the time needed for solving the basic economic problem of the USSR depends largely upon thi

The Communist Party and the Soviet Government pay great attention now (as they did in the past) to the prope utilization of the financial means used for capital constr tion and to the economizing of these means. The Party Congress, Plenum of the CC, CPSU and the USSR gover ment, in their decisions repeatedly emphasized the nece sity for widespread economy in spending state funds an struggling to lower costs and increase social labor pro tivity.

The task of more effectively utilizing material resou and financial means was pointed out in the resolutions c the 20th Congress of the Party as one of the most press problems in the development of the socialist economy a present stage.

Correct definition of the effectiveness of capital inve ments is of great importance for the preparation of lon range plans for the development of the USSR national economy.

2. Through the planning of capital investments by bra of the national economy, by types of production, by indi concerns, by individual republics and economic regions most important economic-political problems in the deve ment of the socialist economy are solved, the direction proportions and the rate of development of the national economy by branch cross sections and by territorial cr sections are determined.

In planning capital construction and in selecting the n effective volumes of capital investments for constructic new objects and the application of new techniques, it is necessary to utilize a scientific method for calculating tal investments.

he economic effectiveness of capital investments and new hniques is expressed in the increased productivity of ial labor, that is, in the reduction of production costs.

Planning capital construction is a most complex and re- nsible type of work at center and lower echelons. Thus, culating the effectiveness of capital investments should ome a necessary part of planning for all echelons of nning organs — from the USSR State Planning Commis- n down to individual concerns.

. The concerns and designing organizations and institu- ns have accumulated a great store of experience in cal- ating the economic effectiveness of capital investments he course of their work. The usual method calls for ital investments to pay for themselves over a given riod, accompanied by the use of a number of technical- nomic indices of effectiveness. This method is also gested in the "Provisional Standard Method of Deter- ning the Effectiveness of New Techniques," published by State Technical Commission in 1956, and in branch tructions based on this publication.

tilization of the tremendous experience of the branch earch and designing institutions, generalizations of oretical studies and practical experiences make it pos- le to progress to the next step; how to determine the nomic effectiveness of capital investments and new hniques.

termination of the Economic Effectiveness Capital Investments in the National Economy

. For the expanded reproduction of individual branches the socialist national economy capital investments are de on the basis of the economic laws of socialism which uire the preferential development of the means of pro- tion and the achievement of the maximum rate of growth production in general. The basic method of planning is method of balances which ensures planned, proportional elopment of the branches of the national economy and noval of disproportions.

his method of balances allows a comparison of the needs certain kinds of goods with available production facili- s, and leads us to a conclusion about the volume of goods ich should be produced during the planned period of new ital construction.

hen tremendous growth of the national economy and an elerated rate of growth of science and technique takes ce, a combination of the method of balances with eco- nic justification for the most advantageous direction of nned capital investments to ensure high social labor pro- tivity and rentability of production acquires especially eat importance.

. Calculation of the effectiveness of capital investments of new techniques should be based on value and tural" indices which make it possible to compare ex- ditures of living labor of different qualities and of dif- ent branches of production with past labor.

t present the value of goods in the national economy is ermined through the mechanism of prices. The expendi- es of labor are registered according to cost, that is, hout taking into consideration the expenditure of labor in production of goods for the whole of society at a given cern. Prices are calculated at the established prices materials, fuel, power, equipment, etc. Calculations of effectiveness by cost do not give us a full and precise esentation of the effectiveness of capital investments just calculations of the effectiveness according to rentability at is, the difference between the price and cost multi- ed by the annual amount of goods produced and divided by the sum of capital investments). The method of determining indices of economic effectiveness of capital investments, in order to be practical, should be connected with the system of prices, cost accounting and production recording. In connection with this an improvement in price formation is of great importance.

6. To determine the amount of capital investments required, capital investments in the basic production funds and investments in circulation funds (in the form of stocks of raw and other materials, fuel, semimanufactured goods and other labor products) must be considered. Usually requirements of the operating concern for circulation funds increases after expansion and modernization.

Sometimes changes in production techniques results in a reduction of circulating funds (for example, in mining coal the usual method may be replaced with strip mining) after which the need for capital investments for new techniques will diminish proportionately.

7. Capital investments make it possible to arm workers with more advanced tools, to increase labor productivity, and attract new workers.

The main purpose of capital investments is a comprehensive development of production; thus, the effectiveness of capital investments, in the final account, is measured by the annual increase in the physical volume of national income obtained through these investments. This sum, divided by capital investments, is the coefficient of the effectiveness of capital investments in the national economy. Here we have to determine the ratio of total national income and its accumulated part to capital investments in the national economy. Total capital investments and, consequently, the rate of growth of production in the succeeding period are determined by the amount of accumulation.

8. Rational utilization of capital investments always requires finding the most effective (economically) variant of the solution of a particular economic problem so as to provide the greatest increase in social labor productivity. It is always necessary to determine the relative economic superiority of one solution over another (including a comparison of new techniques with old techniques).

The indices of the comparative effectiveness of capital investments and of new techniques are: changes in cost are compared to the additional capital investments (that is, the difference between the alternating solutions) and changes in cost expressed by the length of time during which capital investments pay for themselves. In a case when one solution results in lower costs and smaller capital investments, there is no need to calculate the length of the period during which the investments pay for themselves.

9. Relative capital investments — the volume of capital investments per unit of the product — is also an index of the effectiveness of capital investments. But this index does not give all the characteristics of the effectiveness of capital investments because it does not reflect the cost of the product.

10. Indices of value do not always give a complete picture of the actual effectiveness of capital investments. For example, a variant which would be acceptable on the basis of value indices may require labor power and materials which are in short supply etc. In such cases application of value indices alone may result in a wrong decision. Thus, selection of the most advantageous system of alternatives of capital investments requires indices expressed in physical units in addition to value indices, labor productivity (the number of units produced per worker per unit of time), expenditure of fuel, power, raw and other materials, utilization of equipment, of factory area, etc.

The final decision should be taken on the basis of an economic analysis of the value indices and indices expressed in physical units. A system of technical-economic indices, specifically for an individual branch, is to be established in the description of methods to be used in this particular branch.

11. To distribute capital investments among branches of the national economy and branches of industry, indices of effectiveness are applied mainly to determine the branches which should be developed to solve particular economic problems. (Example: Which branches of the fuel industry or which branches of the construction materials industry should be developed in order to ensure the necessary volume of fuel production and construction activity?)

Indices of effectiveness are of great importance for solution of the questions of geographic distribution of production, development of economic zones and regions, specialization and cooperation of industry, determination of the size of the concern, setting the time when operations should start, and selection of the proper equipment, technology, etc.

12. To calculate the effectiveness of capital investments in past years the data in the annual reports showing the growth of net production and national income should be compared with the size of the completed capital investments which determined this growth.

However the growth in production results not only from capital investments which equip the workers with new means of labor, but also results from an increase in the number of workers, improved quality of labor, better organization of labor and production, more rational utilization of the means of production, utilization of new natural resources and from carrying out other measures which require no capital investments.

In calculating the plans of effectiveness the planned increase in net production must be compared with the capital investments which were made according to the plan of the same period, provided these plans were put into action and brought about the increase. For these kinds of calculations the USSR State Planning Commission and the USSR CSA should introduce necessary improvements which would reflect the effectiveness of capital investments in the system of planned indices and indices of the annual reports. Capital investments and the product should be expressed in the same constant prices.

13. To find the best system of alternative solutions for calculating the effectiveness of capital investments the period during which the investments pay for themselves (or their reverse quantity — the coefficient of efficiency) should be compared with the standard magnitude of these indices. These standard indices may be established for the total national economy and for individual branches. This will show the maximal effect expected from capital investments throughout the national economy.

The maximal permissible (standard) period (the period in which capital investments pay for themselves) in the selection of the alternative solutions for capital investments and new technique must be determined by comparing old techniques with new, and an evaluation of the magnitude of capital investments appropriated for each individual branch.

Establishment of standard indices of economic effectiveness of capital investments in the form of periods during which capital investments pay for themselves does not mean that all objects which have smaller effectiveness should be automatically rejected.

Some projects with smaller effectiveness may be approved for construction because they accelerate the solution of basic economic problem, and are necessary for defense, political and other reasons.

14. The method of calculating the period (during whi
capital investments pay for themselves) in different va
ants consists of a comparison of capital investments w
introduce new means of production with the saving of
annual current expenditures obtained through this use.
Determination of the period during which the capital in
ments pay for themselves or of the coefficient of comp
tive effectiveness of capital investments is determined
through a comparison of the alternative solutions acco
ing to the formula $(K_1 - K_2)/(C_2 - C_1) = T$ or $(C_2 - C_1$
$(K_1 - K_2) = 1/T$ where K_1 and K_2 are capital investme
in the variants which are being compared, C_1 and C_2 —
cost of the product in each of these variants, T is the
period during which the investment pays for itself and
the coefficient of efficiency.

T, the period during which capital investments pay f
themselves, or its coefficient $1/T$, must be compared
the standard period established for the individual bran
say T_s or the standard coefficient of efficiency $1/T_s$, a
the results of this comparison determine the variant
selected. The index of the period during which the capi
investment pays for itself shows the period in which th
investment will be paid out of savings from current pr
tion expenditures. These savings should be higher than
rentability of the production.

15. When two variants, with different periods of cons
tion are compared, the economic consequences of dela
or accelerating production must be considered. This a
from the growth of national income connected with the
production of additional products and from the reducti
of the magnitude of uncompleted capital investments
because of acceleration in construction of new projects

Moreover, additional economic results may sometim
be obtained if the start of production in a concern contributes to the growth of national income in adjacent
branches.

If a project is delayed, losses for the national econo
result because of the failure to produce goods and an i
crease in the volume of uncompleted investments. The
losses are calculated in a similar way.

The economic results of reductions or increases in
magnitude of uncompleted investments is determined o
basis of the established standard coefficients of effecti

16. With the passing of time, the growth of labor pr
tivity causes the value of the basic means to decrease
causes reductions in current expenditures for constru
of projects. Thus, when alternative output schedules a
compared, all value indices should be expressed in co
parable prices.

When capital investments for new projects are comp
with capital investments made earlier, they must be e
pressed in comparable prices, quoting capital investm
of past years in comparable replacement prices.

17. If capital expenditures are made at different per
comparison of the variants should take into account th
sum of investments made and expenses of production,
ing into consideration the length of time separating the
investment from the present.

Expression of expenditures during past years in pre
terms is done according to the standards of the econo
effectiveness of capital investments on the basis of the
formula for compound interest.

18. If capital investments in one production scheme
connected with an increase in production, then the mag
tude of capital investments, exploitation expenses and
indices of efficiency for both variants should be calcul
on the basis of the same volume of production. When s
a calculation is made difficult by the fact that, for exa

lesigned capacity of the new project at the existing
nological level becomes greater than the capacity of the
ting project, then comparison by all indices should be
per unit of goods produced. The possibility of increas-
production and satisfying additional needs by using new
ants may be realized with capital investments which
d achieve the same productivity without changes in
pment.

. If utilization of the variant results in an improvement
e quality of the product, a corresponding increase in
price of the product must take place. If there is no
ge in price, then the effect of the improved product may
etermined on the basis of savings in current expendi-
s of the concern which consumes this product.

. In evaluating the effectiveness of a particular variant we
t consider not only expenditures of building a project,
also the development of related branches of production.
example, if a thermopower station is to be built, we
t consider capital investments not only in the power
on, but also in the coal mines which are necessary to
re the supply of coal for the station.

. In determining the economic effectiveness of the geo-
hic distribution, specialization, cooperation and com-
tion we must make calculations of the capital invest-
ts and current expenditures by comparing these costs
the construction costs of an individual project. In
yzing the various variants of geographic distribution we
t compare expenditures not only for production, but also
ransporting products to the consumers. In calculating
effectiveness of specialization and cooperation we must
pare capital investments and current expenditures for
whole chain of concerns connected with each other; the
c variant which does not foresee specialization and
eration among concerns. We should also consider
sportation costs which may arise in connection with the
ible growth of the transport industry as a result of
ialization and cooperation. In calculating the effective-
of combines we should analyze the work of the com-
as a whole and of all its parts as compared with
erns which are not combined, taking into consideration
s and falls in transport costs.

. Besides calculating effectiveness by value and in
— when it is possible to measure it — in comparing
variants of capital investments and the selection of the
t effective among them we must also consider social
ors: making labor easier and more healthful (this is of
ial importance in evaluating the effectiveness of
hanization and automation), increasing safety, and
ing the cultural level and standard of living of the
kers. In comparing variants we should also consider
irements for the defense of the Union.

ial Features of Determining the Economic Effectiveness ew Techniques

. New techniques (new designs of machines, mecha-
s, apparatus, new kinds of raw and other materials,
technological processes etc.) are techniques which
superior to techniques which have been applied.

The use of a new technique, as a rule, requires
al investments. In view of this the economic effective-
of its application is determined with the help of value
es and natural (technical-economic) indices which
comparison of the needed capital investments with
gs of current expenditures of production.

New technical measures, introduced in one branch,
produce economic effects in the given branch or con-
or in adjacent branches (or concerns) which consume
products or supply materials to the original branch (or concern).

The economic effectiveness of new technological processes and new means of production which do not change the character of a product is realized directly at the concern and is expressed in reduced production costs as compared with production costs under existing techniques. The economic effectiveness of new, superior products is realized in their places of use, and is expressed in reduced production costs in those branches of the national economy where they are used as means of production.

26. When selecting variants of new techniques the point of departure should be the available technique which ensures high technical and economic results when applied. Such an improved technique may be a) already available in blueprints or tested in practice; or, b) if such an improved technique is unavailable, the best Soviet or foreign technique already in application should be reviewed.

The economic effectiveness of blueprints approved for application must be determined by comparison with indices of the technique which is to be replaced. If designing, application and mastering of the new technique will take several years, it is necessary then to introduce corrections for the point of departure, to consider changes at the time it will be applied. In order to compare indices of the blueprinted technique and indices of existing production processes under various volumes of production corresponding corrections in the data on the point of departure on the basis of the volume of production according to the design connected with the corresponding capital expenditures, and changes in costs connected with changes in the volume of production should be introduced.

27. In determining the economic effectiveness of applying new kinds of products and complex new technological processes on the scale of whole plant sections (or other large plant subdivisions) it is necessary to compare the full costs of the product. If individual technical measures improve technological processes in some sections of production we should determine changes in cost only on those items of expenditures where the cost is increased or reduced by the new technical measures.

The basic problem is uninterrupted growth of labor productivity. Thus, in calculating cost reductions we should limit ourselves not only to the saving of living labor. In raising the technical level of production (especially in transition to automation) the importance of saving past labor is increasing. Thus, costs must be determined fully and precisely.

28. In order to determine savings in living labor we should compare the labor requirements of the designed production with the actual labor requirements under the existing technological process. If the design foresees the growth of production, the indices of labor requirements should be correspondingly changed. If the existing production is not yet fully mastered, certain corrections should be made in the indices.

Determination of production wages is made on the basis of the approved wage rates plus additional earnings for those who are paid according to piece work. Both these elements are taken as the basis of data for the concern where the new technology is introduced, and if it is introduced in several concerns, as the basis of averages for these concerns.

In order to determine correctly the wages needed for basic production workers we must consider, when a new technique is introduced (in particular in the case of complex mechanization and automation), the possibilities of a better organization of labor under the new conditions. For example, when introducing complex automation we must consider the necessity and possibility (as was done in some plants) of one worker combining the work of adjustment, operation and repair of mechanical and electrical equipment. Adjusters should be treated as basic workers.

Determining the quantity of basic materials and purchased goods to be saved by the new measure comes from comparison of the new standards with the standards used in the existing production and with actual expenditures, if they are lower than the standards. Materials are priced according to price lists. Transportation and purchasing expenses of the concern must be estimated on the basis of actual expenses for individual materials.

If the volume of shipments is changed, the savings (or additional expenses) are determined according to existing railroad rates.

29. The method of determining changes in section or overhead expenses proportionally to the basic production wages fund is wrong and should be given up. It is necessary to determine expenses on various items of overhead expenses (or section expenses) by a direct method.

In calculating expenses on power we must consider the existing rates for power in the regions where the new technique is applied. When we prepare standard designs for the whole country or region, average rates must be used.

In determining expenses for repairs we should make direct calculations by standards, taking into consideration the complexity of repairs.

Expenditures on instruments should also be fixed according to standards. One can use in this case the available standards of the designing institutes and the SKB.

When production rises as a result of the application of new technical measures we must calculate savings in the relatively constant part of the overhead expenses (this part of the overhead expenses as part of the cost per unit changes in inverse proportion to changes in the volume of production). When a considerable growth in production has taken place the relative savings in overhead expenses are determined through preparation of the estimate of the overhead expenditures by items (sectional and general plant overhead).

30. The sum of the year's savings on current expenditures when a technical change has been carried out must be determined in the estimates on the basis of the estimated cost and estimated volume of production. When a year's savings are determined after the technical change, they should be determined not for the first year after the change (as it was established by the Provisional Regulations), but as an average of several years after the change.

When new types of machines are introduced, it is necessary to calculate not only the year's savings, but savings for the whole life of these machines. In this case the determination of savings must reflect the whole period of the service of the machines until their replacement because of obsolescence.

The economic effectiveness of the new technique must be determined at each stage of designing and introduction. In the predesign and designing stages, one must learn the effectiveness of the new technique as compared with the best existing technique. The new technique should be compared with the best existing technique. In the predesigning stage we must decide, in general, whether it is worthwhile to introduce change.

31. In evaluating new, but already manufactured equipment expenditures should be determined according to
lists. In evaluating new and not yet produced equipmen
should take the estimated-standard cost of the plant an
the number of the aggregates to be produced. In order
avoid pricing custom-built equipment too highly (and t
frequently a great obstacle to the introduction of new t
niques) we must calculate standards ourselves in orde
estimate expenditures on completely new equipment (o
basis of the models and corrections needed in order to
into consideration the complexity, weight, size of prod
etc.).*

The original expenditures on research and designing
as well as expenditures above standards in assembly a
justment of new equipment models which can be used f
signing other projects, should not be included in the co
equipment when determining effectiveness. The cost o
sign and experimental work which went directly into th
given project must be included in capital investments.

In determining the amount of needed equipment we m
consider expenditure of time spent in its repair as wel
replacement differences of the equipment work and the
centage of the capacity used.

In determining the size of expenditures which will n
repeated we have to determine the increase or decreas
the circulating means, which will result from the techn
change introduced and which may require changes in p
duction cycles or inventories.

These sums should be included when calculating exp
tures which will not be repeated when determining the
of the period during which investments pay for themse

32. Unlike determining additional capital investment
when two variants must be compared or when we comp
one concern with some other concern, when we introdu
new techniques at a functioning plant a question arises
as to whether the old equipment should continue to be
If this equipment can be used at some other section of
plant, no losses will take place when the old technique
replaced with the new one. If, however, the equipment
being replaced with the new will have to be scrapped,
its next destination remains unknown, then a question
as to what part of its original cost was not written off
depreciation and thus did not become a part of the cost
goods produced with its help. Such a situation may em
when the actual length of service of the equipment does
coincide with the depreciation period. The new techniq
must be sufficiently effective not only to pay for all ad
tional capital investments it requires but also to cove
loss to the economy of the value of the equipment whic
preciation charges have not covered. The shorter the
of service of the equipment, the more effective must b
new technique replacing the existing technique.

What was said about equipment may be applied to all
basic means.

In evaluating old equipment so as to ensure its comp
ability with new, we must approximate its replacement

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In correspondence with these recommendations we
work out for each branch a method as to how to determ
the economic effectiveness of capital investments and
techniques.

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* Evaluation of the structures and production areas is
according to estimates and standards per square mete
the area.

CRITICISM AND BIBLIOGRAPHY

Baev:

Book on the Problems of Labor
roductivity in the Machine Building
dustry

estions of Increasing the Productivity of Labor in Ma-
ne Building," Collected Essays, Mashgiz Publishing
ise, 1957, 511 pp.

n increase in the productivity of labor is the principal
rce of a steady expansion of social production. Our coun-
has already outstripped England and France in the
ductivity of labor in industry. The task of catching up to
surpassing the USA in this respect is being successfully
omplished. In this connection the productivity of labor in
USSR is growing primarily because of an increase in the
nnical equipping of the branches of the national economy,
mechanization and automatization of production process-
and the extensive introduction into production of the
est achievements of science and technique.

he growth and improvement of the machine building
ıstry, the most dynamic branch, determines the rates
echnical progress in the whole national economy. The
ative weight of machine building in the industry of the
R is quite considerable. In this connection great signif-
nce attaches to questions of increasing the productivity
abor in this branch.

he book under review which is devoted to problems of
or productivity in machine building is a collection con-
ing of three basic divisions. It includes 25 articles
ch present a description, generalization and comparative
nnical-economic analysis of highly effective measures in
sphere of machine design, technology and the organiza-
of production which increase the productivity of labor
all stages of preparation for the production and manu-
ture of machinery, from selection of design to assem-
.

he first division, "General Premises for Increasing the
ductivity of Labor," is devoted to questions of utilizing
rnal reserves of production, standardization, normaliza-
and unification of machinery, rational choice of produc-
objectives, as well as the technology of assembly line
duction. In the following division, "Technological
mises for Increasing the Productivity of Labor,"
eral questions of current technology are elucidated:
uating levels of technology, standardization of processes,
technology of designing objects of production, and so on.
last division, "The Experience of Plants," presents the
ing production experience of several machine building
rprises in the complex solution of questions of increas-
labor productivity.

ne book under review is designed for a wide circle of
neering-technical workers, managers and economists in
hine building; its chief merit is that economic questions
is branch are examined in close connection with ques-
s of organizing production. This is all the more important because in some works issued recently there is a tendency to elucidate questions of economics and organization of production separately from one another. It is hardly necessary to demonstrate that a sharp increase in labor productivity in decisive branches of the national economy is possible only with a many-sided approach to this problem, that is, with a simultaneous improvement in technique, technology, organization and planning of production. In studying the means of increasing the productivity of labor in machine building it is necessary to analyze thoroughly all aspects of the close connection between improvements in equipment and the design of machinery on the one hand and improvements in the organization of the production process and technology on the other. This problem is solved differently in the various articles in the collection.

Along with the general premises for increasing labor productivity, questions of utilizing production reserves are examined in the collection. One of these reserves is the levelling-out of labor requirements in the production of identical parts (given identical or similar scales of production) at different enterprises at the level of the leading enterprises. In the introduction to the book the following characteristic example is presented. Eight enterprises applying technology to one and the same part under identical conditions of production required expenditures of time ranging from 36 to 632 minutes (p. 5). Such a gap — more than 17 times — is evidently explained not by differences in the methodology of setting norms for technological operations but by a very considerable disparity in the extent to which technique is applied to production and to different degrees of organization of production. This and other such facts which are still frequently encountered in our industry are convincing evidence that there are great unutilized reserves at enterprises for a growth of labor productivity.

In this review it is impossible to examine all of the articles included in the collection. We pause for only some of those which, in our view, are of greatest interest.

The collection opens with an article by S. Iampolskii on the utilization of production reserves. Among the most important reserves for a further expansion of industry and an increase in labor productivity, the author selects reserves connected with bringing order into standardization, normalization and unification of parts, units and articles. Unfortunately, in our economic literature as well as in practical work this question is apparently given insufficient attention. In the meanwhile it is clear that the development of standardization, normalization, and unification, particularly in machine building parts and products, ensures a considerable decline in the period necessary for the creation and production mastery of new machines, apparatus, instruments and equipment, and hence helps to speed up the rate of technical progress.

The article presents convincing data which show that extensive application of standardized and unified subassemblies and parts makes possible a sharp reduction in the magnitude and labor requirements of all jobs, beginning with the preparatory stage of production (p. 15).

In analyzing the utilization of implements of labor in

Reduction of Labor Expenditure and Technical Documentation (in Sheets of Comparable Size) in Connection With the Standardization and Unification of Parts and Units (in %)

Name of Machine	Reduction in Technical Documentation		Reduction in Labor Expenditures	
	In Designing	In Technological Planning	In Designing	In Technologica Planning
Steam turbine "VK-50-1"	22.0	38.2	22.0	38.4
Hydroturbine Tsimlianskoi GES	9.5	23.5	9.5	28.0
Hydroturbine Dneprovskoi GES	17.5	37.6	11.5	25.0
Diesel motor "8DR-43/61"	27.8	23.3	n.a.	—
Bridge crane 75/15 t.	37.4	41.2	37.5	38.5
Portal crane 10 t.	18.6	28.7	18.1	36.7
Electrical cubed excavator "SE-3"	18.2	37.5	21.7	36.0
Drilling machine Uralmash "5D"	n.a.	—	13.0	45.2
Hydroserrated transmission to motor "8DR-43/61-2G3-222"	26.5	28.6	n.a.	—
Skip winch 22.6 t.	n.a.	—	21.2	11.0
Charging distributor	n.a.	—	17.5	14.3

connection with the task of increasing labor productivity, S. Iampolskii poses the question of the need to elaborate a perspective plan for the unification of machinery, apparatus, instruments and equipment, and their parts and units produced by individual branches of machine and instrument construction. This plan, in the author's view, would become a component part of the general plan for the development of machine building production and its individual branches. Measures for improving standardization and unification in industry must be tied up with the seven year plan which is being elaborated for the development of a number of branches of the national economy and first of all for machine building, and with the plan for the development of specialization and cooperation.

Unfortunately, the author does not connect up questions of the development of standardization, normalization and unification of articles, units and parts with imminent problems of specialization and cooperation in production. He refers to this only casually when he speaks of the great variety in the design of components of general and special purpose agricultural machinery which perform identical functions. "This testifies to the considerable possibilities for the further unification of components of agricultural machinery and increases in labor productivity on this basis, particularly if we provide for the manufacture of unified components in specialized production."

An increase in labor productivity in any branch, including machine building, assumes the seeking out and putting into operation of reserves of growth in the output of goods at enterprises. It seems to us that it is from this point of view that the articles in this collection should have been put together. One cannot help but note that in some cases this principle was not adhered to.

In general, S. Iampolskii's article presents a correct evaluation of production reserves in machine building. However, the author's investigation into the influence of the mobilization of available reserves on the dynamics of labor productivity would be more complete if he expanded the grouping of production reserves which he presents. Here it must be noted that there are different points of view on the question of classifying reserves. K. Klimenko, for example, subdivides them in the following manner: 1) general national economic reserves, 2) branch and inter-branch reserves, 3) plant and shop reserves and 4) reserves at the working place.(1) In our view such a classification is to a certa extent of a provisional nature because in some cases i difficult and now and then it is impossible to make dist tions in accord with this classification, particularly if a matter of a many-sided exposition of reserves. In th same way it is not always possible in practice to clear vide reserves into current and perspective as S. Kame ser,(2) for example proposes. It might be expected tha the articles in this collection, especially devoted to th questions, a great deal of attention would be paid to th classification of reserves and, in particular, the attitu the author to the points of view on this classification in nomic literature would be defined. Unfortunately, S. Ia skii has confined himself to only a very general group reserves into three categories from which are exclude such reserves as the improvement of planning and lea ship of production, improvement of the relationship be basic and auxiliary workers, creating the conditions fo elimination of irregular work, work characterized by i ruptions, and so on. Besides, the problem of productio serves is somewhat narrowed in the article because it connected primarily with elements related to the prepa tion of production. In contrast to this article, in V. Tk ko's article, "Standardization, Normalization and Unif tion of Machinery," these questions are examined fro point of view of extending specialization and expanding operation in industry. "Now," he writes, "standardiza is quite widespread in various branches of the nationa omy of the USSR and has become, in particular, one of principal means of developing specialization in produc The development of specialization of enterprises and t ganization of centralized mass production of standard and normalized parts for widely used machinery arise of the very essence of socialist planned economy" (pp 46).

During the years of Soviet power standardization ha widely developed in our country. The importance of s ization in solving the technical-economic tasks of the st Five Year Plan was already noted at the 16th Party gress where it was pointed out that work on standardiza- of industrial materials and raw materials as well as on l products and their component parts must be extensive- eveloped. Between 1926 and 1928 351 state standards e introduced and between 1929 and 1932 more than 4,000, hich 870 were revised for the purpose of further raising quality of output. Now there are about 7.5 thousand state ndards of which more than 70% apply to means of produc- . More than 90% of ferrous metals and articles derived n them are produced according to state standards, in- ding mass types of shaped and cut rolled metal, sheets, ps, bands, pipes, wire and wiring articles; the chemical nposition and mechanical properties of different grades teel, including quality steels as well as cast iron, ferro- ys and refractory materials are standardized.

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(1) See K. I. Klimenko, The Means of Increasing Labo ductivity in Machine Building in the USSR, Machine Bu Publishing House, 1950.

(2) See S. E. Kamenitser, Reserves of Growth in Labo ductivity at Industrial Enterprise, State Political Publ House, 1950.

n Soviet machine building there are now more than 1,100 e standards on parts and units of machines, apparatus, ruments and technological riggings. The application of h standards in conjunction with specialization in produc- ensures a considerable increase in the productivity of ial labor. Thus, extensive standardization and normali- on of propping components for metal-cutting machine s has made it possible to partly organize their central- d production at specialized enterprises and to derive on account many millions in economies. It is correctly ed in the article that great reserves of growth in labor ductivity exist in the automatization of the technological cesses of production of standardized parts. For example, matization in the preparation of bolts increases labor ductivity by 4.7 times, and in screws by almost 6 times 47). With centralized preparation of standardized and malized parts the conditions are created for the organi- on of mass production and the application of highly pro- tive technology inherent in it on the basis of fully auto- ized processes.

must be noted that the possibilities for the development tandardization are far from being fully utilized. Many es of articles are still not standardized. About 100 nches work out their own norms and do so on identical cles. As a result of such disparity in the working out of ms in machine building and instrument making there are ost 700 different organizations in propping articles alone. average cost of a complex of norms generally exceeds housand rubles. V. Tkachenko's article would profit con- erably if it contained an analysis of such defects in the elopment of standardization and normalization.

he great advantage of standardization is connected with fact that its development permits a considerable expan- in the introduction of the method of aggregation in ma- e building which makes possible the use of standard (or malized) units in equipment of different functional types. regation is being successfully used in chemical machine ding as well as in machine-tool construction; it is one e highly rational methods of solving the tasks of auto- ion of production processes. Here, on the basis of dard power equipment and other design-technological nents of the machine, there are created partly and fully mated lines of production equipment of different types. e article it is shown that the variety of forms of unifica- makes it possible to utilize it extensively for purposes e further growth and improvement of production and in- sing labor productivity. However, the author does not uate the economic effectiveness of unification, confining elf to data showing that the accomplishment of unifica- in excavators and cranes would reduce their labor re- ements by 15.8%, in turret cranes by 17% and in self- elled loaders by 29%.

In its theme, B. Zabelin's article, "Specialization and Cooperation in Production," borders directly on the articles discussed. It contains interesting factual material on the development of specialization in Soviet industry in recent years. It is known that in the period of the Fourth and Fifth Five Year Plans insufficient attention was paid to improving specialization and cooperation. In the decisions of the July (1955) Plenum of the CP CPSU, the 20th Congress of the Party, succeeding Plenums of the CP CPSU and at a number of sessions of the Supreme Soviet of the USSR a profound analysis was given of the defects in specialization and cooperation in leading branches of industry and first of all in machine building. Now, after the completion of the reconstruction of management in industry and construction, improved conditions have been created for a rational extension of specialization and an expansion of cooperation of industrial enterprises.

Before Soviet machine building stands the task of specialization of production in propping articles, cutting instruments, electrodes, cast iron and steel mouldings and other mass production as well as technological rigging. The concentration of such highly specialized production in economic administrative regions with developed machine building requires relatively small capital investments and yields a marked economic effect in a short time which appears not only in production but in the succeeding utilization of machine building output in the national economy. In accomplishing such measures it is frequently necessary to revise the existing specialization of certain output in economic regions. However, changes in the nomenclature of produced goods and the specialization of output must be subordinated to general state interests. It is a matter of the nomenclature having to be redistributed first of all within a given economic region without permitting any violation of obligations to other regions.

The author shows the great economic significance of the measures taken in the whole economy for specialization of shops, plants and whole industrial complexes. In machine building the expansion of a specialized production base for the release of stocks is extremely effective. However, specialization and cooperation are not ends in themselves. Therefore, it might be expected that the article would examine the question of the economically grounded limits to specialization and cooperation which is particularly important in connection with the development of the tendency toward combining adjoining output. The absence of such a consideration reduces the value of this article. However, it must be recognized that the author correctly focuses attention on the necessity for elaborating a system of indexes for the evaluation of projected measures to improve specialization and cooperation. Expressing in state statistics the processes of specialization and cooperation in production at a branch as well as at the territorial level will make it possible to conduct the necessary analysis for elaborating measures for their further development and improvement.

The longest article in the collection, "Selection of the Object of Production" (V. Gokun, author), is filled with rich technical-economic material. On the basis of generalizing extensive primary data it examines the general premises for the selection of objects of production, basic criteria in the selection of objects of production, principal factors in the reduction of the weight of machinery, the effect of current tendencies in machine building on the economy of production and several other questions. Among a number of basic tendencies in the development of machine design during the past ten years the author points to the "striving for a maximum concentration of power in one aggregate, which in its turn predetermines a sharp reduction in the specific weight of corresponding machinery" (p. 76). With wisely selected concrete examples the author illustrates the method of comparative technical-economic grounding of the design of assimilated machinery. However, in examining the problem of the complex analysis of the basic parameters of the selected object of production, V. Gokun confined its solution principally to the stage of technical preparation of production. However, discovering the actual optimum variant of a designing and technological decision can be attained only by conducting a comparative analysis at all stages of production of machinery and this analysis must be supplemented by a comparison of technical-economic indexes of its operation. The author himself recognizes this to some extent. In particular, on p. 70 he writes: "The selection of the optimum variant of the gear (pump — L.B.) depends on the concrete conditions of operation of pumps and is determined by a technical-economic analysis."

In the second division of the book the articles by N. Porvatov and V. Stankevich on "Typification of Technological Processes and Classification of Parts," and A. Davydovski on "The Technology of Designing Machines," deserve attention. The typification of technological processes which permits a liquidation of unjustified diversity in the technology of production of similar output on the basis of systematization and generalization of the experience of enterprises, combined with an improvement in the technology of the object of production, is a great reserve for the growth of labor productivity in machine building. The utilization of this reserve makes it possible to apply methods of large-scale serial and mass production even under conditions of small-scale serial output and this ensures a substantial economic effect. However, the potentialities for increasing labor productivity which are connected with the introduction of typified processes and the improvement of the technology of design are still being insufficiently realized in our industry, including machine building. Here it is particularly important to note that with the development of typification of technological processes it becomes possible to raise individual processes to the level of progressive ones and to widely extend leading methods of production.

It should be noted that in these articles an economic approach to the evaluation of this or that technological variant is frequently replaced by the production-technical approach. However, the economic effectiveness of applied technological processes to a large degree determines the economics of any enterprise, including a machine building one. Their evaluation, as noted at the June 1958 All-Union Scientific-Technical Conference on Problems of Determining the Economic Effectiveness of Capital Investment and New Technique in the National Economy of the USSR, must be conducted at all stages — from their scientific elaboration to their introduction into industry: 1) in the pre-design stage — in posing the question of the necessity for a scientific elaboration and projection of new technological processes and designing new means of labor; 2) in the projecting stage — in the process of projecting, and when elaborated projects of new technology, blueprints of new means of labor and experimental models are given to industry for mass introduction; 3) in the application of new technique in complex projects of new and reconstructed existing enterprises. For a correct evaluation of the economic effectiveness of a new technological process it is extremely important to determine the optimum volume of the production program. Here, the most important index is the period of recoupment of capital investment for the introduction of new technological processes and means of labor calculated according to the formula: $T = (K_i - K_{res} - K_{cos})/(C_1 - C_2)$, where T equals the period of recoupment of capital investment, K_i equals capital investment for the introduction of new technology and
means of labor, K_{res} equals the restored value of the
means of labor released in connection with the introdu
of new technique and utilized in industry to increase t
ume of production, K_{cos} equals the cost of wear and t
equipment which is unfit for further utilization in indu
or which can be utilized ineffectively, C_1 and C_2 equa
duction expenditures of the variants being compared.(

It should be noted that in some other articles the au
devote more attention to an analysis of the economic e
tiveness of various measures. For example, in A. Pr
skuriakov's article, "A Technical-Economic Basis for
Selection of the Type of Appliance," there is a special
division on "Determining Economies Connected With t
Growth of Labor Productivity in Using Appliances," w
is filled with economic calculations. The author prese
a nomogram, the use of which makes it possible to so
such problems as discovering the economic effect of u
an appliance given certain annual expenditures for it a
assigned amount of output of parts, or determining the
mum savings of direct wages from the use of an appli
if annual expenditures for it, the volume of output, the
of overhead costs and so on are known.

The inclusion of such an article in the collection me
approval, all the more because mathematical methods
which make it possible to conduct a quantitative analy
the problem being posed are now beginning to be used
frequently in economic studies.

Questions connected with calculations of required c
expenditures, especially of a short term nature, are f
quently involved in economic analysis in plant plannin
particularly in determining the size of stocks and the a
of parts, circulating funds, necessary supplies of finis
goods and so on. For an optimum solution mathemati
methods may be applied here. Generally such proble
may be viewed as a special type of maximum (minimu
problem. Thus, an extension of the application of met
of economic calculations, including methods of analyz
the effectiveness of planned measures, is connected w
extension of the application of mathematical methods
the solution of complex extreme problems. The prosp
that we can expect a wide extension of methods of exa
economic calculations at enterprises based on combin
the utilization of improved mathematical methods and
use of rapidly operating calculating devices and electr
calculating machines.

Among the articles in the last, third, division of the
lection the attention of economists may be drawn first
all to the article by S. Berlin and L. Dobroslavski on
creasing Labor Productivity at Heavy Machine Buildi
Plants," and the article by G. Taurit on "Increasing L
Productivity at an Automobile Plant," in which questi
connected with discovering and realizing technologica
serves of production are elucidated. The first of thes
cles examines progressive technological processes s
the sectional method of stamping, electric-slag weldi
others which are being more widely used at enterpris
heavy machine building. The following article, based
terials from the Gorky Automobile Plant, elucidates t
complex of measures taken at this enterprise to incre
output with a minimum of labor and material expendit
This plant has accumulated experience, which should
widely disseminated, in the struggle for reducing exp
itures of metal which results in an increase in its coe

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(3) See G. G. Bugaev, Basic Questions of the Method
termining the Economic Effectiveness of New Techno
Processes, Academy of Sciences of the USSR Publishi
House, 1958, pp. 5, 11, 13, 14.

ilization in the production process. In 1956 a system of
rial incentives was elaborated and introduced for taking
sures that economized on metal. Last year at this en-
ise more than 50 thousand tons of economized metal
used in 4 months to fulfill and overfulfill the production
The successful realization of all measures planned for
duction at the plant, the article concludes, will permit
crease in automobile output of 85% by 1960 as com-
d to 1950 principally from the existing area, increasing
ensity of output from a square meter of production
by 33% in comparison with 1955 with a considerable
ction in automobile production costs.

S. Datskovski's article, "A Comparative Analysis of
nological Processes," two indexes are proposed for
ating the effectiveness of the technological process; a
ction in the gap between the weight of procured and
hed parts, and a reduction in the total labor require-
s needed for manufacturing parts from procurement to
inal operation. The author thinks that the effectiveness
ese measures should be determined by the summary re-
Material presented in this article shows that although
emic economists have not yet equipped production per-
el with an exact method of calculating the effectiveness
w technology, in the concrete conditions of the enter-
e there is the full possibility of discovering the advan-
of this or that variant of a progressive technological
ion in the selection of new equipment or the rigging of
w technological process.

major factor in the steady rise of labor productivity in
stry, including machine building, is an improvement in
nal economic and branch planning. Of particular impor-
e here is the preparation of economically based balanc-
ccounts of the branch plan so that the development of the
rate parts of output in machine building will be properly
-related and the possibility of establishing tasks which are
acked by necessary material resources will be excluded.
the practical work of planning, Lenin's classical direc-
that in all plans of individual branches production must be
tly coordinated, connected, and together compose that
ed economic plan which we need so much, fully retains
ignificance. This is the decisive condition for a system-
growth in the productivity of social labor. For correct
-branch planning it is extremely important that there be
ll-grounded selection of a system of planning task-
xes tied to the planned dynamics of the volume of out-
"The economic content of a planning task-index for la-
productivity is directly tied to the economic content of
ndex for the volume of output. This index expresses:
e direct labor productivity of each individual worker in
nterprise and all workers combined; 2) economies of
odied labor in the given shop by means of a better utili-
n of objects of labor obtained from another shop of the same
rprise or an improvement in product design, technology and
; 3) the organizational form of production, that is, certain
daries of productive cooperation fixed by the index it-
which appear in the form of the enterprise as the final
essee of the task."(4) It must be said that questions of
ing, which is one of the basic premises for a steady
ase in labor productivity, have been essentially ex-
d from consideration by the authors of the book under
w. However, at the current stage of development of
t machine building a correct establishment of the in-
s of the production plan plays an exceptionally impor-
role. It is known that up to now the continuing practice
tting tasks for several types of output in this branch expressed in weight has a negative effect on the development of certain output in machine building. Comrade N. S. Khrushchev's comment about defects in our planning and accounting of output, made in his speech at the All-Union Conference on Construction on April 12, 1958, applies fully to machine building.

There are some other defects in the collection. It is known that among the reserves of growth in labor productivity the mechanization of auxiliary work and intra-plant transportation in which hand labor frequently prevails is of considerable importance. Here, special attention should be paid to so-called "small-scale mechanization" — the use of relatively simple mechanisms and machinery for various auxiliary operations. In the book under review only one small article is specially devoted to these questions — A. Ustiantsev on "Mechanization and Automation of Technological Processes at Machine-Tool Construction Plants" (not counting G. Terekhov's article in which these questions are partly touched on).

The extension and improvement in the utilization of metal pressing equipment is also one of the principal means of increasing labor productivity in machine building. Unfortunately, only one article in the collection is devoted to this extremely important question — S. Kliuchnikov on "Selection of the Method of Manufacturing Heat-Stamped Items." We note, incidentally, that heat-rolled sections are not the most progressive now because instead the use of bent sections in machinery and construction makes it possible to economize 20-25% of the metal.

Among the defects of the articles in the collection is the fact that they skirt the problem of modernization of existing equipment. The modernization of existing equipment is a great reserve of growth in labor productivity in machine building. A certain amount of experience has been accumulated in our industry in the sphere of modernization of equipment. For example, machine building enterprises in the city of Izhevsk (Udmurtsk Economic Council) have this experience. With modernization the possibilities for automation of production processes are extended. At the Kharkov electro-mechanical plant as a result of the modernization of Lathe No. 1A62 automation of the cycle of its work was achieved (by the installation of a hydraulic copying mechanism) which increased labor productivity in processing shafts by 85%.

The May (1958) Plenum of the CC CPSU placed before the Soviet people one of the most important economic-political tasks — in a short time to ensure an accelerated development of the chemical industry and to create a powerful industry producing polymers. The solution of this task will have great significance in quickening the rate of technical progress. Machine building already consumes about one half of the production of plastics. From these materials there are produced silently operating toothed wheels, bearings, bearing brass, plugs, and brake lasts which ensure a considerable growth in labor productivity and yield great economic effects. The utilization of each thousand tons of plastics instead of metal ensures more than 5 million rubles of economies. It should be noted that although plastics have been used in machine building for a relatively long time these questions are not elucidated in the book under review.

A serious omission by the compilers of the collection is the absence of articles on questions of the complex automation of production processes, the use of which in machine building would ensure a multiple increase in labor productivity. But complex automation yields its maximum effect only if the stability of the technological process is maintained. For this the metal working industry requires a stable

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vgeni Mateev, Productivity of Labor Under Socialism
ational Economic Planning, Sofia, 1956, pp. 662-663.

instrument of high quality. Here, unfortunately, not everything is in a satisfactory state. For example, the stability of drills between grooves (with the same work regime) fluctuates from 5 to 50 minutes. In general the direct connection between labor productivity and the quality of the instrument should be emphasized. All of these important questions have not been elucidated in detail in the work under review. In A. Prokopovich's interesting article, "Evaluating the Technical Level of the Technology of Mechanical Processing," the role of the cutting instrument in the development of machine building production is mentioned only casually in the subdivision on "Production Costs." However, the following fact, for example, testifies to the great significance of increasing the stability of instruments: if at least 90% of the whole output of the instrument would be manufactured from only the best grade of rapidly-cutting steel and hard alloys, then for the country as a whole this would produce an effect equal to a doubling in the output of the instrument at existing production areas and with an unchanged number of workers.

Despite certain omissions and defects the collection under review contains extensive factual material and merits a generally positive evaluation. The book under review will help in the elaboration of measures designed to further increase labor productivity in machine building.

L. Vasilevsky:

An American Economist on Soviet Transport

Holland Hunter, "Soviet Transportation Policy," Harvard University Press, 1957, XXIII + 416 pp., map, graphs.

The author of the book under review, H. Hunter, is assistant Professor of Economics of Haverford College (Haverford, Pennsylvania, USA) which is connected with Harvard University; previously he was a member of the Russian Research Center at Harvard University (Cambridge, Massachusetts).

In his world view the author of the book under review is far from Marxism; while trying to be accurate in establishing facts he analyzes and interprets them from a bourgeois standpoint. But in contrast to some bourgeois economists he does not depend on a handful of "data" obtained third hand and supplemented by fantasies and conjectures. Having learned the Russian language he has made extensive use of the Soviet literature on transportation, including the periodical literature, and has collected extensive factual and quantitative material which he presents directly in the text as well as in the Appendices at the end of the book. The author reveals a good knowledge of the Soviet scientific, technical and economic literature on questions of transportation. In the text of the book and in the Appendices he mentions tens of names of Soviet scholars and specialists on transportation and frequently cites their works, journal articles and speeches.

The book under review consists of three parts. The first part presents a review of the historical and geographical conditions in which the Soviet transportation system was created and developed and also examines the basic problems
of Soviet policy in the sphere of the location of producti
and the development of transportation. The second part
the book is a review of the history of the development o
transportation in the USSR during the period 1928-1955.
illuminates the role of transportation in the industrializ
tion during the years of the Great Patriotic War and du
the period of post-war restoration and development of
national economy of the USSR. The author then charact
izes the distinguishing features of Soviet transportation
the relationship between different types of transportati
the USSR. The third part of the book analyzes the inter
nections of railroad transportation with other branches
the national economy, problems of labor productivity in
transportation, freight rate policy, questions of the effe
tiveness of capital investment in transportation and the
profitability of railroad transportation and, finally, the
perspectives for the development of transportation in th
USSR.

Holland Hunter decisively rejects the slanderous fabr
tions about the "unauthenticity" and "unreliability" of So
statistical data. His work rests exclusively on materia
published in the USSR. He emphasizes that the data in S
viet sources — books, journals and newspapers — are
liable and consistent, although fragmentary and incomp

But even on the basis of "fragmentary" data Professo
Hunter draws a picture of the successfully operating an
rapidly growing, powerful transportation system of the
USSR; he examines in detail the difficulties in the devel
ment and operation of transportation in the USSR at diff
ent historical stages and shows how these difficulties w
overcome. The author comes to the conclusion that the
isting transportation system in the USSR, with all its di
ferences from the transportation system of the USA "is
ready a remarkably effective one. Hence, the indicated
conclusion should be one of respect rather than compla
cency" (p. 144).

However, it should be noted that not all the figures w
the author presents and uses as the basis of his study a
completely correct and exact. This is not surprising.
Among the large number of sources which he has utiliz
there are some which are outdated. Certain newspaper
cles and popular brochures could not by any means hav
served as sources for a scientific study. Finally, certa
formulations and figures are apparently not altogether
rectly understood and interpreted by the author (partly
because of differences in terminology, methods of acco
ing and so on). Therefore, it is not surprising that ma
the indexes presented for the condition and operation o
viet transportation are not altogether correct and in pa
ticular the figures characterizing the current transpor
situation in the USSR are understated.

Despite these defects the data published in H. Hunter
book are new to readers in the USA, a country where e
the most obvious and indisputable achievements of Sovi
transportation are often ignored or distorted.

However, the book under review shows that the autho
not free of bias regarding the policy pursued by the So
state. Every departure from a commercial approach i
solving questions of the location of industry (and the de
velopment of the national economy in general) and the
nical improvement of transportation he considers to be
distortion of the "natural laws of economic developme

[English quotations have been checked where possible, otherwise they are retranslated. — Ed.]

* H. Hunter's book was written before the publication
the statistical handbooks "The National Economy of the
USSR in 1956" (State Statistical Publishing House, 195
and "Transportation and Communication" (State Statist
Publishing House, 1957).

fessor Hunter, however, cannot help but recognize that
policy of the Soviet government and the Communist Party
ie "moving force" behind the rapid development of the
le Soviet economy and in particular of transporta-
.

analyzing the relationship between the different types
ransportation in the USSR the author notes that a distinc-
feature of the Soviet transportation system is the high
tive weight of railroad transportation in the total vol-
of transport. The relationship between the different
s of transportation in the USSR differs from the corre-
ding relationship in other economically developed coun-
s. This peculiarity of the transportation system of the
R is not considered by H. Hunter as a defect. He writes:
e geography and technological history of each economy
ifferent, and consequently its transportation system is
kely to duplicate that of other economies. The present
inance of railroads in the USSR has no precise counter-
among other major industrial powers, and yet this does
mean that the proportions among the major carriers in
USSR are incorrect and therefore likely to change"
160).

. Hunter evidently underestimates the perspectives for
development of Soviet internal water transportation and
ncrease in its share in the freight traffic of the coun-
However, he speaks of the gradual but large-scale de-
pment of automobile transportation and appraises highly
perspectives for the development of pipeline transpor-
on in the Soviet Union.

he author does not understand the significance of the so-
ist economic system and its role in achieving those great
cesses of the Soviet Union which he recognizes. Thus, he
es that "nationalization of transportation facilities, and
ralized planning of transportation activities, have not so
proved to be successful means for organizing a smoothly
tioning, unified transportation system" (p. 276). Here H.
ter evidently underestimates the possibilities of the So-
state in coordinating the operation of different types of
sportation and creating a genuinely unified transporta-
network. He does not understand the fundamentally new
litatively different than in any capitalist country) formu-
on in the Soviet Union of the problem of creating a uni-
transportation network. He thinks that in the USSR as
ne United States the coordination of the operations of dif-
nt types of transportation into a unified transportation
vork and particularly the development of mixed transport
hindered only by a multitude of technological difficulties
the high cost of shipments. This is connected with the
or's disbelief in the possibility of increasing the rela-
share of water transportation in the freight traffic of
USSR and particularly in the perspectives for the devel-
ent of mixed transport.

. Hunter notes correctly: "It could not be expected that
merging into a unified transportation network of the
plex system consisting of several different types of
sportation would automatically follow the nationalization
ransportation or the creation of a planned economy"
52). It is true that the possibility of creating a unified
sportation network which is embedded in the socialist
omic system is not realized automatically. For this it
ecessary to overcome a number of difficulties and solve
mber of problems — scientific, technical and organiza-
l. But if the creation of a unified transportation net-
is impossible in capitalist countries because of the
of private property in the means of transport (and the
ns of production in general) under a socialist system
obstacle does not exist.

ofessor Hunter ignores basic differences between capitalism and socialism. "Wherever," he writes, "there are several types of transportation able to fulfill shipments a certain amount of competition will arise among them" (p. 152).

In comparing the position and operation of transportation in the USSR and the USA Professor Hunter compares average annual indicators for five year periods. But such a comparison distorts the actual relationship between the level of development of transportation in the USSR and the USA. First of all a comparison of average annual figures for periods of differing character (for example, the period of the second world war and the post-war period) and the absence of figures on the dynamics within each period do not offer the possibility of correctly determining the actual rates of development of transportation in the USA and USSR. As we know, such basic indicators of the work of railroad transportation as the volume of shipments, freight turnover, and so on, fluctuated from year to year in the USA in the post-war period. Some indicators of the operation of railroads in the USA such as the weight and speed of trains, car loadings, and others, grew very slowly. Finally, such indicators as the length of trackage as well as almost all quantitative and qualitative indicators of passenger movement and passenger transportation worsened steadily. In the USSR on the other hand all indicators of the development of transportation during the post-war period are steadily and rapidly improving.

As far as comparisons of average figures for the war years with those for pre-war and post-war years are concerned (to which the author frequently returns), they have completely different significance for the USA and for the USSR. As we know, the USA hardly felt the weight of the war; on the contrary, the war boom led to a considerable increase in freight turnover and an improvement in the utilization of technical facilities. At the same time the Soviet Union experienced the whole weight of the war which undoubtedly held back the development of transportation.

In comparing the maximum freight traffic density of shipments on railroad lines in the USSR and the USA the author uses out-dated figures. Thus, he writes that for the USSR the maximum freight traffic density of shipments on the Krasnyi Liman-Osnova line was 27 million short ton-miles per mile of operated road (1940) and 23 million short ton-miles per mile on the Novosibirsk-Chulymskaya line (1947). He compares these figures with indicators of freight traffic density for a section of the Pennsylvania railroad located west of Philadelphia (62 million short-ton miles per road mile in 1947 and 74 million in 1944).* Even if we disregard differences in the data being compared (see footnote) the years chosen for comparison are not typical. In freight density the railroad lines cited above (as well as many others) for the USSR not only do not give way to the most densely loaded stretches of USA railroads but exceed them.

Holland Hunter accepts the classification of technical-operating types of railroad transportation developed in the works of T. S. Khachaturov and his characterization of American and European types of railroad transportation. But polemicizing against Comrade Khachaturov, he denies the existence in the USSR of a special technical-operating type of railroad transportation which combines a number of the best features of the west European and American types along with special peculiarities which are absent in the

---

* Freight traffic density of USA railroads is presented in American so-called short tons which equal .907 metric tons while the corresponding indicator for the USSR is taken in metric tons.

USA as well as in west European countries. He thinks that the Soviet railroad system in its technical-operating type occupies an intermediate position between the west European and American and is gradually evolving from the European to the American type but is still far from the latter. Here he cites the USSR lag behind the USA in such indicators as weight and speed of movement of trains as well as the greater over-all traffic density of railroads in the Soviet Union than in the United States.

However, in denying the existence in the USSR of a special technical-operating type of railroad transportation which does not copy the American and does not repeat its path of development, Professor Hunter does not always consistently hold to his thesis. In several places in the book he notes some positive peculiarities of Soviet railroad transportation which distinguish it from the railroads of the USA as well as from the railroads of west European countries. For example, on p. 138 the author writes: “It will be seen that over the last twenty years Soviet freight locomotives and cars have been put to considerably harder use than American freight locomotives and cars.” But in west European countries locomotives and freight cars, as we know, are utilized less intensively than in the USA. Thus, in this important indicator of railroad transportation the USSR is ahead of western Europe and America. On p. 136 H. Hunter refers to the
“more intensive utilization of railroad lines in the USS
than in the USA” (average freight density in the USSR, h
states, is about three times the USA level). But, on the
other hand, holding that freight traffic density and the i
tensity of utilization of lines and technical resources of
transportation are too high in the USSR, Hunter mistak
views the underutilization of the technical resources of
transportation and their highly intensive utilization in t
USSR as being equally negative aspects of these two tra
portation systems (p. 136 and elsewhere).

As a whole, the book under review reveals to Americ
a kind of “New World” — demonstrating that the Soviet
Union is a great railroad power. It is no accident that a
view of Hunter’s book in the American railroad journal
way Age” notes that the facts presented in the book asto
American railroad men who are inclined to think that “c
oos” still work on all railroad lines outside the USA a
that railroads in distant Russia are “narrow-gauge line
which an archaic steam engine now and then pulls a cou
of freight cars.”*

The prevalence of such absurd views in the USA abou
USSR is the result of slanderous propaganda which atter
to ignore the technical and economic achievements of th
Soviet Union.

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* “Railway Age,” Vol. 144, 1958, No. 4, p. 14.

Tumshevits:

Conference Concerning Questions
Specialization and Complex De-
opment in the Baltic Economic
gions

Riga an inter-Republican conference was held on
ions of the specialization of industry and the complex
lopment of the national economy of the Baltic Soviet
blics. The conference was organized by the Institutes
onomics of the Academy of Sciences of the Latvian,
anian and Estonian Union Republics. Collaborators of
scientific institutions as well as leading workers in
conomic Councils and Republican Gosplan organiza-
participated actively in its work. In opening the con-
ice the Director of the Institute of Economics of the
emy of Sciences of the Latvian SSR, P. Dzerve, noted
ts tasks were to establish a scientific foundation for
ain directions of the further development of industry,
scuss problems connected with the creation of a single
nal economic complex in the Baltic Republics and a
er of questions on improving economic ties and a
r utilization of natural resources.

ese vital questions were elucidated in the reports of
ollowing: Chairman of the Estonian Economic Council,
eimer, on "Perspectives of the Economic Development
e National Economy of the Estonian SSR as an Eco-
c Administrative Region;" Chief of the Department of
nary, Perspective and Current Planning of the Gos-
of the Latvian SSR, V. Sitchikhin, on "Perspectives of
conomic Development of the Latvian SSR;" and Direc-
f the Institute of Economics of the Academy of Sci-
s of the Lithuanian SSR, K. Meshkauskas, on "Some
tions of Specialization and the Complex Development
e National Economy of the Lithuanian SSR."

the economic situation of each of the Baltic Republics
own peculiarities may be noted. For example, in the
anian SSR the level of industrial production is some-
lower than the average for the USSR. There are
er reserves of labor power here than in the Estonian
atvian SSR's which makes it possible to create new
ches of industry and to considerably expand existing
in Lithuania.

rther progress in the sphere of the national economy
dividual economic administrative regions must be
ly tied to the presence of labor resources. In connec-
vith this Comrade Veimer proposed that perspective
ces of labor be elaborated. He noted that in the
ian SSR the power industries will receive the greatest
opment in the nearest future. The fishing, slate, and
ical industries, construction, production of building
rials, and machine building will also grow at rapid
.

e reorganization of management in industry and con-
tion, stated Comrade Veimer, has already yielded
ve results. However, certain deficiencies have not
een liquidated. Thus, planning organs have not yet
structed their work in accord with the new circum-
es; close and extensive connections between individual economic administrative regions, republics and councils of the national economy have not been put in order.

V. Sitchikhin stated that in the coming years in the Latvian SSR the machine building and radio-technics industries, the fuel-power economy, and the production of wall and astringent materials will be considerably developed. It is intended here to build a number of new enterprises which will also produce goods for neighboring Republics. Among such enterprises, for example, are plants for the production of instruments, cable items, gas apparatus, electric motors and others.

In all the reports it was emphasized that in order to liquidate the backwardness of the power economy of the Baltic it is necessary to build, at a rapid rate, new hydroelectric power stations and thermal electric power stations, to create a single power system for the North-West USSR. For the purpose of reducing the share of coal and firewood shipped in from afar in the fuel balance of the Latvian and Lithuanian SSR's it is necessary to make extensive use of petroleum and natural gas. In this connection it is necessary to speed up the construction of a gas-main to receive gas from Dashava.

The reports of L. Brutus (Institute of Economics of the Academy of Sciences of the Estonian SSR) and L. Iasinskas (Economic Council of the Lithuanian SSR) examined the perspectives of the development of industry in the Estonian and Lithuanian Republics and showed the reserves for increased labor productivity and increased output of goods. N. Razdobudko, member of the Institute of Economics of the Academy of Sciences of the Latvian SSR, made a report on transportation-economic ties and reduction of transportation cost. He noted that in the period from 1950 to 1956 there was a considerable increase in freight traffic among the Baltic Republics. However, most of national economic freight is still shipped by railroad transport. Automobile transport, as well as water transport is not used for regular inter-Republican freight shipments. In the future it is expedient to organize a permanent freight line between the ports of Lithuania, Latvia and Estonia for the shipment of metal goods, building materials, etc.

The speaker noted that deficiencies in the cooperation of the Baltic Republics with other economic administrative regions leads to excess expenditures. On the basis of quantitative data he showed that if metal was shipped to the Baltic from the Ukrainian SSR and not from the Urals, it would have made it possible to reduce transportation costs by 2.5 million rubles in 1956.

A. Sumin (Latvian State University) devoted his report to the utilization of balancing accounts in planning the national economy of the Latvian SSR. He emphasized the need to shift from the preparation of separate balancing accounts to the elaboration of complex balances for the Baltic Republics closely tied to the balance for the national economy of the USSR.

A report on the experience of constructing regional and urban balances of labor in the Latvian SSR was made by L. Starodubskii (Institute of Economics of the Academy of Sciences of the Latvian SSR) who noted that the reconstruction of management in industry and construction requires a more detailed study of labor resources. Recently, in the Institute of Economics of the Academy of Sciences of the Latvian SSR, a study was conducted on the utilization of the labor resources of the Republic at the regional and branch levels and proposals for improving the existing distribution of labor power were projected. As a result, labor balances were worked out for all 45 rural administrative regions and 6 cities of the Republic administration.

V. Tarmisto (Institute of Economics of the Academy of Sciences of the Estonian SSR) described in detail the degree of utilization of natural resources in the Estonian SSR. Slate is of special importance in its national economy. An urgent problem for the Republic is the reduction of expenditures of lumber materials and a rational application of waste materials from wood. In Estonia there are considerable supplies of phosphorite which should be extensively used for the needs of the national economy. It is also necessary to expand the production of dyes from material obtained from local supplies of pyrites.

Several reports were delivered on the perspectives of the development and specialization of individual branches of industry of the Baltic Republics on the basis of a strengthening and expansion of rational economic ties between economic administrative regions. The representative of the Institute of Economics of the Academy of Sciences of the Latvian SSR, P. Shultz, reported on the creation of a specialized plant for the production of heavy instruments (stamping machines, presses and appliances) for all enterprises of the Soviet Baltic. According to his calculations the concentration of the production of instruments at the specialized plant will permit a reduction of about one half in the labor required for their preparation and will save 12.5 million rubles annually, including 10 million rubles from the wage bill. In connection with the fact that the principal consumer of instruments is the Latvian SSR, in particular the enterprises of Riga, it is most suitable to create such a plant in this city. Expenditures for its construction will be recouped in about 2.5 years.

The great economic effectiveness of specialization and cooperation in the textile industry of the Latvian SSR was convincingly shown in the study of Candidate of Economic Sciences, V. Deich, who introduced a proposal for the concentration of finishing operations in the cotton and woolen industry of the Republic. The finishing of cloth at small enterprises does not permit the application of advanced technique and technology and therefore production costs of cloth finishing here are considerably higher than in th leading finishing enterprises of the country. The conce tration of finishing operations, taking measures for th specialization, cooperation and consolidation of textile terprises of the Republic will permit an annual saving about 15.5 million rubles in the cotton industry and 14. million rubles in the woolen industry.

At the conference representatives of the Institute of nomics of the Academy of Sciences of the Estonian SSF presented reports. E. Kull spoke on the specialization further development of the metal-working industry; L. Ritso spoke on the basic direction of specialization anc further growth of the furniture industry of the Estonia A. Kadak spoke on the development of the fishing indus of the Republic. Scientific workers of the Institute of E nomics of the Academy of Sciences of the Lithuanian S A. Chuzhas and K. Berkmanas, reported on specializat and cooperation in the metal-working industry as well the development and location of enterprises of the buil materials industry in Lithuania.

V. Tumshevitz devoted his report to questions of spe ization and cooperation in the furniture industry of the Latvian SSR; K. Uskov reported on specialization and c centration of production in some branches of the food p ucts industry of this Republic. Representatives of bro Republics as well as workers in the administration of t Economic Council of the Latvian SSR and its enterprise participated actively in the discussion of the reports a communications. G. Yevstafyev, chief of the industrial tor of the Institute of Economics of the Academy of Sciences of the USSR, took part in the discussion.

The participants in the conference adopted decisions which the principal problems presented in the reports debates received concrete expression. It was recognize that one of the main tasks of economists of the Baltic i further work on establishing rational economic ties am the Baltic Republics as well as with other economic re gions of the country. In the decisions it was emphasize that a vital scientific problem now is the problem of st ing the raw material base in the Baltic for the purpose of organizing the production of plastics, nitrogenous fertilizers and other types of chemical produ tion.

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